

**Exhibit 6**

**Expert Report of Kevin M. Murphy**

**UNITED STATES BANKRUPTCY COURT  
EASTERN DISTRICT OF MICHIGAN**

In re	)	
	)	Chapter 9
	)	
CITY OF DETROIT, MICHIGAN,	)	Case No. 13-53846
	)	
Debtor.	)	Hon. Steven W. Rhodes
	)	

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**EXPERT REPORT OF KEVIN M. MURPHY**

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## **I. Credentials**

1. My name is Kevin M. Murphy. I am the George J. Stigler Distinguished Service Professor of Economics in the Booth School of Business and the Department of Economics at The University of Chicago, where I have taught since 1983.
2. I earned a doctorate degree in economics from The University of Chicago in 1986. I received my bachelor's degree, also in economics, from the University of California, Los Angeles, in 1981.
3. At The University of Chicago, I teach economics in both the Booth School of Business and the Department of Economics. I teach graduate level courses in microeconomics, price theory, empirical labor economics, and sports analytics. In these courses, I cover a wide range of topics, including the incentives that motivate firms and individuals, the operation of markets, the determinants of market prices, and the impacts of regulation and the legal system. Most of my teaching focuses on two things: how to use the tools of economics to understand the behavior of individuals, firms and markets; and how to apply economic analysis to data. My focus in both research and teaching has been on integrating economic principles and empirical analysis.
4. I have authored or co-authored more than 65 articles in a variety of areas in economics. Those articles have been published in leading scholarly and professional journals, including the American Economic Review, the Journal of Law and Economics, and the Journal of Political Economy.
5. I am a Fellow of the Econometric Society and a member of the American Academy of Arts and Sciences. In 1997, I was awarded the John Bates Clark Medal, which the American Economic Association awarded once every two years to an outstanding American economist under the age of forty.<sup>1</sup> In 2005, I was named a MacArthur Fellow, an award that provides a five-year fellowship to individuals who show exceptional merit and promise for continued and enhanced creative work. Also in 2005, I was elected a Fellow of the Society of Labor Economists.

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<sup>1</sup> The John Bates Clark Medal was awarded biennially until 2009, but it now is awarded annually. See [http://www.aeaweb.org/honors\\_awards/clark\\_medal.php](http://www.aeaweb.org/honors_awards/clark_medal.php) (accessed December 19, 2012).

6. In addition to my position at The University of Chicago, I am also a Senior Consultant to Charles River Associates (“CRA”), a consulting firm that specializes in the application of economics to law and regulatory matters. I have consulted on a variety of antitrust, intellectual property, fraud, and other matters involving economic and legal issues, such as damages, class certification, mergers, labor practices, joint ventures, and allegations of anticompetitive exclusionary access, tying, price fixing, and price discrimination.

7. I have submitted testimony in Federal Court, the U.S. Senate, and to state regulatory bodies, and I have submitted expert reports in numerous cases. I have testified on behalf of the U.S. Federal Trade Commission, and I have consulted for the U.S. Department of Justice. A list of my publications and the testimony I have given over the past four years is provided in my CV, attached as Appendix A. CRA is being compensated at a rate of \$1,250 per hour for my work on this matter.

8. My opinions are based on the information available to me as of the date of this report. The materials on which I relied in forming the opinions I offer in this report are identified in Appendix B. My work is on-going, and I will continue to collect data and other information relevant to the issues and opinions that I discuss in this report. I will review, evaluate, and analyze any relevant material that becomes available to me, and I will supplement my report as necessary to reflect this information.

## **II. Assignment and Summary of Conclusions**

9. I have been asked by Counsel for Syncora Capital Assurance Inc. and Syncora Guarantee Inc. (collectively, “Syncora”) to evaluate the City of Detroit’s (“City’s”) apparent claim that it must provide disproportionate recovery of Pension Claims (relative to other unsecured claims) in order to attract and retain employees who will assist the City in its recovery after it emerges from bankruptcy. Pension Claims are held by retired City employees as well as by current and former employees who participated in the City’s pension plans.<sup>2</sup> Once the City emerges from

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<sup>2</sup> There are four “Pension Categories”: “(A) PFRS [Police and Fire Retirement System] active employees and former employees that have earned a pension but have not yet retired; (B) PFRS current retirees and surviving spouses; (C) GRS [General Retirement System] active employees and former employees that have earned a pension but have not yet retired; and (D) GRS current retirees and surviving spouses” (*Corrected Motion of the City of Detroit For Entry of an Order Establishing Supplemental Procedures for Solicitation and Tabulation of Votes to Accept or Reject Plan of Adjustment with Respect to Pension and OPEB Claims* (“Corrected Motion”) ¶13). Based on a discussion

bankruptcy, it will freeze its current defined benefit pension plans and replace them with new plans that have both defined benefit and defined contribution elements.

10. According to the City, the “Plan’s treatment of Pension Claims minimizes the adverse impact of the pension benefit reductions on the City’s current employees, whose ongoing motivation and cooperation (as well as that of the unions that represent the employees) is vital to the City’s recovery and to the health, welfare and safety of its residents.”<sup>3</sup> The City further claims that “by providing a relatively enhanced recovery to holders of Pension Claims, the City is helping to ensure the success of some of its most vital relationships going forward,”<sup>4</sup> claiming further that “current employees are understandably concerned about the extent of impairment of benefits for retired City employees, as active employees will become retirees at some point.”<sup>5</sup> For these reasons, the City claims that “[i]mpairment of Pension Claims beyond that which is proposed by the Plan would have a greater negative impact on the performance and morale of current City employees.”<sup>6</sup>

11. Based on my expertise in labor economics and in the analysis and quantification of the economic incentives that motivate firms and individuals, I have concluded that neither economic principles nor empirical evidence supports the City’s claim that the performance and morale of current employees and their contribution to the City’s future success is linked strongly to the recovery rate of Pension Claims. Put simply, the recovery rate of Pension Claims is unlikely to have a meaningful impact on an employee’s expected gain (relative to other options) from working for the City. This clearly is true for retirees and former workers – they are not and will not be working for the City.<sup>7</sup> But it also is true for active workers with Pension Claims – the

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between my staff and staff at FTI, I understand that twenty percent or less of the Pension Claims is held by active employees and the remainder by non-actives (retirees, beneficiaries, disabled, vested terminated). I understand that this calculation will be explained in the expert report on behalf of Syncora by Steven Rosen of FTI that, I understand, will be served on July 29, 2014.

<sup>3</sup> *Consolidated Reply to Certain Objections to Confirmation of Fourth Amended Plan for the Adjustment of Debts of the City of Detroit* (“Consolidated Reply to Certain Objections”), 5/26/2014 ¶62.

<sup>4</sup> Consolidated Reply to Certain Objections ¶65.

<sup>5</sup> *Id.*

<sup>6</sup> *Id.*

<sup>7</sup> According to the *Fourth Amended Disclosure Statement with Respect to Fourth Amended Plan for the Adjustment of Debts in the City of Detroit*, 5/5/2014 (“Plan Disclosure”), over 450 uniformed DPD officers (about 17.5 percent of the total 2,570 uniformed officers (Plan Disclosure at 117-118)) were eligible to retire in 2013; an additional 150 officers will be eligible to retire in each year from 2014-2019 (Plan Disclosure at 118). Thus, a substantial portion of active employees may retire before or soon after the City emerges from bankruptcy.

value of an active worker's Pension Claim, whatever the recovery rate, is the same whether she continues to work for the City or she decides to retire or seek other employment. In other words, because Pension Claims are not *conditional* on working for, or working harder for, the City in the future, those Claims have no effect on worker incentives.

12. In connection with my assignment, I reviewed the expert reports submitted on behalf of the City on July 8, 2014.<sup>8</sup> I found nothing in these reports to support the City's claim that providing disproportionate recovery for Pension Claims is necessary to the City's recovery because the efforts of active employees, both those currently working for the City and those that the City will want to hire in the future, will be affected by the recovery rate of Pension Claims. In connection with my assignment, I also reviewed the transcript of the deposition of Michael Hall, Director Human Resources and Labor Relations for the City of Detroit,<sup>9</sup> and found that he too offered no support for, and indeed his testimony was inconsistent with, the City's claims that I have been asked to evaluate. I reviewed the transcript of Kevyn Orr's July 22, 2014 deposition and found that he also did not support the claims I have been asked to evaluate.<sup>10</sup> As I explain below, neither economic theory nor available empirical evidence supports the City's claim that it must favor Pension Claims over those of other unsecured creditors such as Syncora in order to reorganize and successfully emerge from bankruptcy.

### **III. Background**

13. The problems facing the City of Detroit, which led to the appointment on March 14, 2013 of Kevyn Orr as Emergency Manager and to the City's subsequent bankruptcy filing, were the culmination of a long period of economic decline. Mr. Orr summarizes these problems in his July 18, 2013 Declaration filed in support of the City's application for Chapter 9 bankruptcy.<sup>11</sup> He explained that "Detroit's decline is the product of a confluence of demographic and economic

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<sup>8</sup> Expert Report of Kenneth Buckfire in Support of City of Detroit's Plan of Adjustment; Expert Report of Charles M. Moore, CPA, CTP, CFF; Report of Gaurav Malhotra; Report of Alan Perry; Report of Robert Cline; Report of Caroline Sallee; Report of Suzanne Taranto; Expert Report of John Hill; Report of Beth Niblock, Chief Information Officer for the City of Detroit; Expert Witness Report of Michael Plummer; Expert Report of Vanessa Fusco; Expert Report of John C. Satter.

<sup>9</sup> Deposition of Michael Hall, 7/2/2014 ("Hall Dep.").

<sup>10</sup> Deposition of Kevyn Orr, Volume 2, 7/22/14 ("Orr Dep.").

<sup>11</sup> *Declaration of Kevyn D. Orr in Support of City of Detroit, Michigan's Statement of Qualifications Pursuant to Section 109(c) of the Bankruptcy Code* ("Orr Declaration"), 7/18/2013.

forces that have been mounting for decades.”<sup>12</sup> “From 1972 to 2007, the City lost approximately 80% of its manufacturing establishments and 78% of its retail establishments.”<sup>13</sup> “The demise of Detroit's industrial sector has proven catastrophic for its citizens' employment prospects. The number of jobs in Detroit (for residents and non-residents) declined from 735,104 in 1970, to 562,120 in 1980, to 412,490 in 1990, to 346,545 in 2012”<sup>14</sup> – by almost 53 percent from 1970 to 2012.

14. Mr. Orr opined that,

Declines in both population and the economy are mutually reinforcing trends. As more people leave the City, there is less economic activity and, thus, a decreased need for workers. Less economic activity and fewer jobs induce even more people to leave, thus further reducing economic activity and exacerbating job losses. Detroit has been in the grip of this vicious spiral for decades, and it has taken a tremendous toll on the City's ability to generate revenue.<sup>15</sup>

15. Mr. Orr also explained that the City's spending on public services had declined as the City's finances deteriorated, resulting in higher-than-average crime rates and urban blight.<sup>16</sup> The City's fiscal difficulties imposed hardships on City employees. The City's employee headcount fell by more than 22 percent between 2010 and mid-2013 – from 12,302 at the end of fiscal year 2010 to 9,591 employees as of June 30, 2013.<sup>17</sup>

16. In his Declaration, Mr. Orr stated that “the City does not intend to tarry in chapter 9 [but instead] to implement a plan of adjustment and conclude this case no later than September 2014.”<sup>18</sup> The City filed its initial Plan of Adjustment on February 21, 2014, proposing more substantial reductions in Pension Claims in that initial plan than it now intends.<sup>19</sup> That initial

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<sup>12</sup> Orr Declaration ¶17.

<sup>13</sup> Orr Declaration ¶22.

<sup>14</sup> Orr Declaration ¶23.

<sup>15</sup> Orr Declaration ¶24.

<sup>16</sup> Orr Declaration ¶¶31-36.

<sup>17</sup> Plan Disclosure at 126.

<sup>18</sup> Orr Declaration ¶2.

<sup>19</sup> In the original version of the plan, the estimated recovery percentage for PFRS Claims was 20.8-29.8 percent and the estimated recovery percentage for GRS Claims was 27.5-33.3 percent (*Disclosure Statement with Respect to Plan for the Adjustment of Debts of the City of Detroit*, 2/21/2014 at 15-17). According to the current Plan Disclosure, the estimated recovery percentage for PFRS Claims is 59 percent with Outside Funding and the estimated recovery percentage for GRS Claims is 60 percent with Outside Funding (Plan Disclosure at 36-39). Without Outside Funding, the estimated recovery percentage of PFRS Claims is 39 percent and the estimated recovery of GRS Claims is 48 percent.



plan was subsequently amended and, on May 5, 2014, the City filed its current Plan – the *Fourth Amended Plan for the Adjustment of Debts of the City of Detroit* (“the Plan”).

17. An important component of the Plan is an agreement known as the “grand bargain” between the State of Michigan (represented by its Governor), private foundations and the City. Under terms of the Grand Bargain, the State and private foundations will provide funding to the City if the City commits to little if any reduction (relative to pre-bankruptcy levels) in pensions of retired police and firefighters (and smaller reductions in other retirees’ pensions than originally proposed) and agreeing not to sell the City’s art collection to raise funds to pay the City’s creditors.<sup>20</sup> Ownership of the Detroit Institute of Arts (“DIA”) “will be transferred to an independent charitable trust, putting it out of reach of creditors pushing for a sale of art.”<sup>21</sup> As a condition of its financial contribution, the State requires “setting up an oversight commission that will have control of the city’s finances, budgets and contracts for at least 13 years.”<sup>22</sup>

18. According to the DIA, “[a]s envisioned by the mediators and Governor Snyder and as now endorsed by Mr. Orr, the Grand Bargain is a win/win/win strategy for Detroit: (1) it provides for a quick exit of Detroit from bankruptcy by avoiding years of costly litigation concerning the rights of the pensioners and the protection of the Museum and its collection; (2) it adds significant benefits to Detroit’s deserving pensioners; and (3) it safeguards the museum and art collection in perpetual trust for the people of the City, the region and the State.”<sup>23</sup>

19. Under the Plan and the Grand Bargain, the proposed recovery rate for Syncora’s bankruptcy claims is substantially lower than that for Pension Claims. Syncora’s bankruptcy claim results from its role in insuring a previous bailout of the City’s pension plans. In 2005 and

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<sup>20</sup> According to the Expert Witness Report of Michael Plummer (“Plummer Report”), the “estimated gross sales value of the DIA holdings” “without accounting for limitations or clouds on title, limitations in the market on the sale of the works, or any of the discounts” described in his report ranged from a low estimate of \$2.8 billion to a high estimate of \$4.6 billion, with a mid-estimate of \$3.7 billion (Plummer Report ¶32, Table 2).

<sup>21</sup> See “Foundations add \$13 million to grand bargain pot for DIA, pensions,” Detroit Free Press, June 11, 2014 (<http://www.freep.com/article/20140611/ENT05/306110124/mellon-getty-detroit-institute-arts-grand-bargain> (last visited 7/11/14)).

<sup>22</sup> “Michigan House overwhelmingly approves \$195 million in state aid for Detroit,” Gary Detroit Free Press, July 15, 2014 (<http://www.freep.com/article/20140522/NEWS06/305220234/DIA-Michigan-House-Detroit-bankruptcy> (last visited 7/16/14)).

<sup>23</sup> “Detroit Institute of Arts applauds the inclusion of the Grand Bargain in the Emergency Manager’s Plan of Adjustment,” Detroit Institute of Arts, Press Release, February 21, 2014 (<http://www.dia.org/news/1568/Detroit-Institute-of-Arts-applauds-the-inclusion-of-the-Grand-Bargain-in-the-Emergency-Manager%E2%80%99s-Plan-of-Adjustment.aspx> (last visited 7/14/14)).

2006, Detroit arranged for issuance of certificates of participation (“COPs”), debt instruments that were “supported by services contracts between the City and each of the General Retirement System Service Corporation and the Police and Fire Retirement System Service Corporation.”<sup>24</sup> At the same time, the two Service Corporations entered into Swap Contracts for “the outstanding amount of the 2006-B COPS, or \$800 million,”<sup>25</sup> and arranged with Syncora and the Financial Guaranty Insurance Company (“FGIC”) “for insurance policies to guaranty certain of the payments on the Swap Contracts.”<sup>26</sup> Thus, ironically, the City’s obligation to Syncora results from Syncora’s involvement in rescuing the Pension Plans that the City now proposes to favor over Syncora’s claim.

20. According to Syncora, it would receive single-digit recovery on its Claims under the Plan, while the Pension Claims of retired and active police and firefighters would be paid virtually in full, and GRS Pension Claims would not be reduced proportionately to the reduction imposed on other unsecured creditors like Syncora.<sup>27</sup> Syncora challenges the disparate treatment of Pension Claims and COP claims as discriminatory and not consistent with bankruptcy law.<sup>28</sup> Although the City disputes the amount of the disparity, it concedes that holders of Pension Claims will receive a recovery rate about six times greater than that received by Syncora.<sup>29</sup>

21. I have been asked to evaluate whether the City’s claim that it must protect the Pension Claims of current and future retirees in order to secure the “ongoing motivation and cooperation” of active employees and their commitment to assuring the City’s future financial health<sup>30</sup> is consistent with economic theory and evidence. I conclude that the City’s justification is not supported by economic theory or empirical evidence.

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<sup>24</sup> Orr Declaration ¶45.

<sup>25</sup> Orr Declaration ¶47.

<sup>26</sup> Orr Declaration ¶48.

<sup>27</sup> *Syncora Capital Assurance Inc. and Syncora Guarantee Inc.'s Objection to the Debtor's Plan of Adjustment* (“Syncora Objection”) ¶¶35-45.

<sup>28</sup> Syncora Objection ¶¶2-8.

<sup>29</sup> Plan Disclosure, Exhibit K (page 174 of 212). Based on 40-year projections, the City claims that PFRS and GRS pensions will receive 59 and 60 percent recoveries, respectively, while Pension Obligation Certificates (“POCs”) that include Syncora’s claims will obtain a 10 percent recovery.

<sup>30</sup> Consolidated Reply to Certain Objections ¶62.

#### **IV. Methodology for Economic Analysis of the City's Claims**

22. I have been asked to apply my expertise in labor economics and empirical methods to evaluate the City's apparent contention that its post-bankruptcy success requires that it provide Pension Claims substantially greater recovery than the City proposes to provide Syncora. Those Pension Claims are held by retired City workers and by active workers that participated in the City's Pension Plans as of July 18, 2013. These claims are held by two defined Classes of creditors: Class 10, which consists of Police and Fire Retirement System ("PFRS") Pension Claims, and Class 11, which consists of General Retirement System ("GRS") Pension Claims.<sup>31</sup>

23. The City's position that disproportionate recovery of Pension Claims is essential to motivating active employees is amenable to economic analysis. As an economist, I can evaluate an assertion such as this by applying fundamental economic principles and the teachings of labor economics about economic incentives to understand whether the City's argument is consistent with those economic principles. In addition, I can evaluate empirical economic evidence to understand whether historical data are consistent with the logic of the City's claim.

24. The premise underlying the City's rationale for discriminating in recovery between Pension Claims and other financial claims appears to be that it will be materially more difficult for the City to keep, attract, and motivate qualified employees if the recovery rate for Pension Claims is similar to that of claims of other unsecured creditors than it would be under the terms of the Plan.<sup>32</sup> The City seems to view its proposed treatment of Pension Claims as a "carrot" essential to motivating and attracting employees post-bankruptcy. At its core, the City appears to offer its own theory of labor supply, or the incentives of employees – both current employees and those that the City will compete to attract in the future – to supply labor to the City, an area studied by economists and in which labor economists in particular have expertise. The substantial economic literature on labor supply incentives generally is relevant to understanding the City's position.

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<sup>31</sup> *Fourth Amended Plan for the Adjustment of Debt of the City of Detroit* ("Plan"), 5/5/2014 at 38-42.

<sup>32</sup> As noted above, I am not aware of any economic analysis offered by the City or any expert on the City's behalf to explain the basis on which the City concluded that the recovery rate of Pension Claims is an important factor in determining current and future employees' morale or incentive to work for the City.

25. In addition, certain premises underlying the City's claim are amenable to empirical investigation. One important implication of the City's claim is that current and potential employees of the City have so many attractive options that treatment of Pension Claims could be a significant determinant of their willingness to work for the City post-bankruptcy. In economic jargon, the City implies that current employees, and those who it will want to hire in the future, are "on the margin" in their willingness to work for the City, with recovery of Pension Claims having a meaningful impact (over and above other tools that the City can use) on the City's ability to attract, motivate and keep them. The City implies that the recovery rate of past Pension Claims is an efficient and perhaps necessary tool for motivating employee effort and commitment, and that the City lacks other motivational tools that would not provide disproportionate recovery to one group of unsecured creditors (i.e., that the disproportionate recovery is "necessary").<sup>33</sup>

26. In the rest of my report, I evaluate the economic evidence to see if it is consistent with and supports the City's position. I find that it does not. As I discuss in my report:

- Economics informs us that the primary determinant of an employee's willingness to accept or remain in a particular job is what that job offers going forward in compensation, working conditions, etc. In other words, employees primarily are motivated by the compensation that they expect to receive *as a consequence of* their work effort. Economic models of labor force participation, number of hours worked, when to retire and choice among employment options relate these decisions to the rewards that the worker can expect if he or she chooses to work. In contrast, compensation of other employees and even compensation of an employee for past work effort does not directly affect the incentive to work going forward. For both current and potential employees of the City, the recovery rate of Pension Claims does not affect the future gain from working for the City either absolutely or relative to alternative employment – those Claims are effectively a lump sum (calculated as the present value of the expected pension payments) and are unaffected by whether a current employee with a Claim continues to

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<sup>33</sup> Consolidated Reply to Certain Objections ¶87 ("preferential treatment of Pension Claims is necessary and appropriate to motivate the City's employees and their unions to aid in the City's revitalization. Without workforce support, the City will be unable to provide essential services, protect the welfare of its residents, and succeed as a City by retaining existing and attracting new residents and businesses").

work for the City or decides to terminate her employment with the City. Similarly, the compensation that potential employees can expect is unrelated to the recovery rate of Pension Claims. (See Part V, below.)

- Active employees have been and will be affected by the City's financial difficulty. As part of the Plan, the pensions and other benefits earned by active employees will be reduced relative to those for which retired employees were eligible. To the extent that the City needs to motivate active employees' involvement in post-bankruptcy recovery, it has tools that can be effective – raising employees' compensation and improving working conditions that employees receive in exchange for their future work for the City. The recovery rate of existing Pension Claims, which simply affects the amount of compensation received by past or current employees for work done in the past, is unlikely to be an effective way to motivate current workers or those who will consider working for the City in the future. (See Part VI.)
- Data on the labor market in the Detroit area and the history of hiring and retention by the City suggests that the City has not had difficulty, and will not have difficulty in the future, attracting and retaining employees. Even with the City's current financial difficulties, it has been able to fill the positions most critical for the City's immediate needs.<sup>34</sup> The majority of recent employee separations have been retirements rather than resignations, which again suggests that jobs with the City are and remain attractive. (See Part VII.)
- It is common for employees to make concessions (voluntarily or involuntarily) when employers face financial difficulties. There are a numerous examples of employees receiving reduced wages, fringe benefits, and other forms of compensation, yet firms where such concessions were made continued to be successful at attracting and retaining workers. For example, while state law may prevent a government from reducing pension benefits for past or current employees, some governments have addressed problems with

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<sup>34</sup> Hall Dep. 185:7-187:3. Much of my empirical analysis of the City's hiring and separations uses data on the Detroit Police Department ("DPD") because these are the data that were available to me for analysis. Consistent with the importance that the City places on improving safety in the City, it also is likely that retaining, attracting and motivating police (along with other uniformed workers) is an important City priority.

pension funding by reducing benefits for new workers.<sup>35</sup> The prevalence of wage and future pension concessions when firms seek to improve their financial standing is inconsistent with the City's apparent claims that it is necessary to disproportionately protect Pension Claims in order to motivate employees in the future. (See Part VIII.)

27. In contrast to the analysis I present below, the City offers no economic analysis to support the business necessity of the discrimination it proposes.

#### **V. Economic Models of Labor Supply Relate Labor Supply to an Employee's Compensation and Opportunities**

28. Traditional models of labor supply show that an employee's willingness to work (or to supply labor) depends on her expected compensation, expected working conditions, and other available opportunities. Put simply, labor supply is motivated by the expected return *from working*. Importantly, that return is not the total compensation that a worker will receive from her employer in the future. Rather, it is the *incremental* compensation that a worker receives for performing additional (future) work. In other words, when a worker decides how many years (or hours) of labor to supply to the market or how much effort to supply, economics tells us that she is primarily concerned with how much she expects to be compensated (and any other benefits she might enjoy) for the additional time and/or effort, not with the pension she already earned for her past work.

29. Indeed, the economics literature on labor supply is careful to distinguish the marginal or incremental return from work from the level of compensation. That distinction, which underlies my analysis here, is supported not only by economic theory, but also by empirical evidence – including evidence based on analyses of the impact of social welfare and retirement programs.<sup>36</sup>

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<sup>35</sup> Alicia H. Munnell and Laura Quinby, "Legal Constraints on Changes in State and Local Pensions," Center for Retirement Research, August 2012.

<sup>36</sup> For a discussion of this issue in connection with the Earned Income Tax Credit ("EITC"), see Borjas, George J., *Labor Economics* (6th Ed. (2013)), 59-64 (explaining how the EITC subsidizes work by increasing the incremental return to an hour of work or the net wage and making "it more likely that eligible recipients work"). See also Ronald G. Ehrenberg and Robert S. Smith, *Modern Labor Economics: Theory and Public Policy* (12<sup>th</sup> Ed. (2015)) ("Ehrenberg and Smith"), 229-232 ("policies designed to affect the retirement ages of workers in a particular direction would benefit from making sure that both income and substitution effects work in the *same* direction. For example, many private sector pension plans had provisions that induced workers to retire early...Perhaps in part because firms now want experienced workers to stay longer, many of these pension plans have been eliminated or

30. Exhibit 1, below, presents a stylized example to illustrate why the recovery rate of Pension Claims does not affect an employee's return to working for the City. I base this illustration on one of the examples in the Plain Language Insert that was given to Class 10 Claimants along with a ballot for voting on whether to accept the Plan. As described there:

Example 3: John Johnson is age 42. As of July 1, 2014, he will have earned – based on his then salary and years of service – a \$30,000 annual pension. He also will have earned a right to a 2.25% annual increase (COLA or "escalator") in his annual pension each year following retirement. Johnson works for another 10 years, and retires on July 1, 2024. Under the PFRS New Accrued Pension, he earns a \$7,500 pension for life. If Classes 10 and 11 approve the Plan, Johnson's \$30,000 frozen accrued pension is reduced to \$28,200, and he loses the right to the 2.25% COLA. At retirement, Johnson will receive the following: (i) an annual \$28,200 pension under the old formula, plus (ii) an annual \$7,500 pension under the PFRS New Accrued Pension, for a total annual pension for life of \$35,700. But if Classes 10 and 11 do not approve the Plan, John Johnson will receive at retirement \$33,300 per year (\$25,800 + \$7,500), and it will not be increased annually. He will receive \$33,300 annually for life.<sup>37</sup>

31. Exhibit 1 shows John Johnson's expected compensation (wages plus retirement benefits) if he retires today or in ten years under two scenarios: a scenario in which the Plan is approved and a scenario in which the Plan is not approved and there is a reduced recovery rate of his Pension Claim. In both scenarios, the gains to John Johnson from working for the City once it emerges from bankruptcy are exactly the same. If the Plan is approved, then John Johnson gets a \$28,200 annual pension benefit regardless of whether or not he continues working for the City. If the Plan is not approved, his benefit is \$25,800, again whether or not he continues to work for the City. In both scenarios, he will receive an additional \$7,500 benefit if he continues working for the City for ten more years – an amount based on the salary that he will receive from the City in future years and that is wholly independent of the recovery rate of his Pension Claim. In considering whether to work for the City in the future or instead to pursue alternative employment, John Johnson will compare what he can expect to earn from the City in future compensation (including pension benefits) and the working conditions at the City with what is available to him from other employers.

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changed so that benefits for early retirement have been reduced and the additions to the value of lifetime pension benefits if retirement is delayed have grown larger" (emphasis in the original)).

<sup>37</sup> Corrected Motion, Plain Language Insert, Exhibit 6C.1 ¶4.

# Exhibit 1

## Reducing the Pension Recovery Rate Does Not Affect the Expected Gains from Working for the City of Detroit

### Hypothetical 42-Year-Old City Employee, John Johnson

			Pension Benefits	
			Plan Is Approved	Plan Is Not Approved (Reduced Recovery Rate)
[1]	Stops Working for City on July 1, 2014:	Salary Earned in Alternative Employment	\$28,200 / year <i>Plus</i> Pension Earned in Alternative Employment	\$25,800 / year <i>Plus</i> Pension Earned in Alternative Employment
[2]	Works for City Until July 1, 2024:	Salary Earned Working for the City	\$28,200 + \$7,500 = \$35,700 / year	\$25,800 + \$7,500 = \$33,300 / year
[3] = [2] - [1]	Difference between Working for the City for Another 10 Years and Quitting July 1, 2014:	City Salary <i>Minus</i> Alternative Salary	\$7,500 / year <i>Minus</i> Pension Earned in Alternative Employment	\$7,500 / year <i>Minus</i> Pension Earned in Alternative Employment

Source: Example 3 of Plain Language Insert, Exhibit 6.C.1, at 11.

Note:

John Johnson receives a retirement benefit of \$28,200 each year if the Plan is approved and a benefit of \$25,800 each year if the Plan is not approved. In both scenarios, he earns an additional pension benefit under the City's new pension plan of \$7,500 per year if he continues working for the City for an additional 10 years.

32. Thus, Exhibit 1 shows that the incremental salary and benefits that John Johnson receives from working for the City for ten more years is the same whether or not the Plan is approved. In both cases, John Johnson's gain from working for the City (rather than elsewhere) equals his City salary minus the salary earned in alternative employment (the incremental gain or loss in wages), plus the \$7,500 per year pension benefits minus the pension earned in alternative



employment (the incremental gain or loss to his pension benefits).<sup>38</sup> The recovery rate of the Pension Claims has no impact on what John Johnson receives if he continues to work for the City after it emerges from bankruptcy relative to his other alternatives.

33. The point that the reduction in Pension Claims does not affect the incremental compensation from working for the City is even clearer for non-actives that hold Pension Claims and for future City employees. Retirees already have exited the labor market in which the City competes for employees, and so the treatment of their Pension Claims has no direct impact on the City's ability to attract and retain workers.<sup>39</sup> There is also no incremental gain to retirees from the City's performance post-bankruptcy, unlike the potentially improved compensation and working conditions, including job security, that active and future employees might receive if the City is financially strong in the future.<sup>40</sup> New employees hired after the City emerges do not own Pension Claims, and so are not directly affected by the recovery rate.

34. The Plain Language Insert also explains a very weak connection between possible future improvement in the City's pension funding to which active employees' efforts might indirectly contribute and any potential increase in pensions under the City's frozen plan. According to the Insert,

if PFRS pension funding levels improve, your PFRS Adjusted Pension Amount may be increased, and some or all of your future COLA payments could be restored. *Any pension restoration will first be used to increase the PFRS Adjusted Pension Amount to existing retirees*; additional pension restoration will be used to increase the PFRS Adjusted Pension Amount to terminated vested employees and active employees. Any additional pension restoration beyond increasing the PFRS Adjusted Pension Amount will then be used to provide a COLA.<sup>41</sup>

35. The potential for improved pension funding levels appears to relate only to the possibility of a greater investment return than currently expected, and not to potential impact from the effort of City workers. However, the plan to first use any additional funding to increase retirees'

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<sup>38</sup> Even if this is negative, he may choose to work for the City if other aspects of employment by the City are better, such as healthcare benefits, working conditions or job security.

<sup>39</sup> I discuss later in my report the potential for an employee to consider the recovery rate of Pension Claims as a signal for the security of the pension he will earn under the new pension plan.

<sup>40</sup> In the next paragraph of my report, I explain one possible way in which future employee efforts could affect the future value of Pension Claims.

<sup>41</sup> Corrected Motion, Plain Language Insert, Exhibit 6C.1 (emphasis added).

pensions, and only increase pension recoveries of active employees if there are additional funds beyond those needed to restore pensions of retirees, is inconsistent with the City's claim that the recovery rate for Pension Claims should be used as a motivational tool. The Plan's top priority for distributing benefits from future improvement in the frozen plans' funding is retirees who do not contribute to the City's financial performance, and not the active employees whose "ongoing motivation and cooperation . . . is vital to the City's recovery and to the health, welfare and safety of its residents" according to the City.<sup>42</sup>

36. The recovery rate of Pension Claims does not affect what any claimant – active employee or retiree – can expect to receive as compensation for work that he performs on behalf of the City post-bankruptcy. This principle, which is illustrated in Exhibit 1, is well understood and developed in economics. In the standard static labor supply model, an individual chooses how much to work in each period at a fixed market wage. The tradeoff for the individual is that, while he earns more by working more hours, he has less time for other activities the more he works. Labor economists typically refer to this as a tradeoff between "labor" and "leisure."<sup>43</sup> Standard labor supply models take into account the individual's wages, his non-wage income, and his preference for leisure relative to the consumption of other goods; based on these, the individual chooses the amount to work that provides him with his most preferred combination of income (which increases as the individual works more) and "leisure" (which decreases as the individual works more).<sup>44</sup>

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<sup>42</sup> Consolidated Reply to Certain Objections, ¶62.

<sup>43</sup> Pindyck, Robert S. and Daniel L. Rubinfeld, *Microeconomics (Sixth Edition)* 2005 ("Pindyck and Rubinfeld"), 525-527 ("The wage rate measures the price that the worker places on leisure time, because his or her wage measures the amount of money that the worker gives up to enjoy leisure. As the wage rate increases, therefore, the price of leisure also increases. This price change brings about both a substitution effect (a change in relative price with utility held constant) and an income effect (a change in utility with relative prices unchanged). There is a substitution effect because the higher price of leisure encourages workers to substitute work for leisure. An income effect occurs because the higher wage rate increases the worker's purchasing power. With higher income, the worker can buy more of many goods, one of which is leisure" (525-526)); see also, Varian, Hal R., *Intermediate Microeconomics: A Modern Approach (Fifth Edition)* 1999 ("Varian"), 171-176.

<sup>44</sup> Gregg, Lewis H., "Hours of Work and Hours of Leisure," Papers and Proceedings, Ninth Annual Meeting, IR Research Association (1956), 196-205 ("given the worker's tastes, his consumption of leisure and thus his hours of work supplied, both measured in hours per unit period of time, depend upon his estimates of his long-run or permanent real wage rate and real property income prospects. His demand function for leisure (or labor supply function) has the familiar properties: the substitution effect of a rise in the real wage rate is a reduced consumption of leisure per head (increased hours of work supplied per head) ; the income effect of a rise in the real wage rate or in real property income is an increased rate of consumption of leisure per head (reduced supply of hours per head) if leisure is a normal commodity" (196-197)); Becker, Gary S., "A Theory of the Allocation of Time" 75 *Economic*

37. Increasing an employee's wage has two opposing effects. First, the worker earns more per hour (or other relevant unit of time or effort), which tends to cause him to work more. This effect is known in economics as the "price" or "substitution" effect. Second, the worker will be wealthier overall for any given amount of work, which may cause him to consume more "leisure" and work less; economists refer to this as the "wealth" or "income" effect.<sup>45</sup> The wealth effect does not arise only from increased wages, but from any event that affects the employee's wealth; a positive wealth effect (i.e., incentive to reduce work for any given wage) occurs when an employee receives an inheritance, wins the lottery or makes a successful investment, for example, while a negative wealth effect (and incentive to work more or longer for any given wage) occurs when an employee incurs larger debts for unanticipated medical expenses, major uninsured property damage or investment losses.<sup>46</sup>

38. A lower recovery rate of a worker's Pension Claims will not affect the amount that an employee earns per hour of future work, so the price or substitution effect is zero. It does,

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*Journal* (September 1965), 493-517 ("The conclusion that a pure rise in earnings increases and a pure rise in income reduces hours of work must sound very familiar, for they are traditional results of the well-known labour-leisure analysis" (502)).

<sup>45</sup> Pindyck and Rubinfeld, 525-526. See also, Varian, 171-176 ("When the wage rate increases, the substitution effect says work more in order to substitute consumption for leisure. But when the wage rate increases, the value of the endowment goes up as well. This is just like extra income, which may very well be consumed in taking extra leisure. Which is the larger effect is an empirical matter and cannot be decided by theory alone. We have to look at people's actual labor supply decisions to determine which effect dominates" (174)).

<sup>46</sup> See, for example, Ehrenberg and Smith at 184 (emphasis in original) ("if wealth increased and the opportunity cost of leisure [i.e., the wage rate] remained constant, the person would consume more leisure and work *less*."). The wealth effect on labor supply is supported by empirical studies in the economics literature. See, for example, Brown, Jeffrey R., Courtney C. Coile, and Scott J. Weisbenner, "The Effect of Inheritance Receipt on Retirement," 92(2) *Review of Economics and Statistics* 425 (May 2010) ("We use inheritance receipt as a wealth shock and find that it is associated with a significant increase in the probability of retirement, especially when the inheritance is unexpected"); Cesarini, David, Erik Lindqvist, Matthew J. Notowidigdo, and Robert Ostling, "The Effect of Wealth on Household Labor Supply: Evidence from Swedish Lotteries," Working Paper (July 2013), 1-2 ("many policy proposals – such as changes to retirement systems, property taxes, or the lump-sum components of welfare payments – often involve implicit or explicit transfers of wealth []. In these cases, knowledge about the causal impact of wealth on labor supply decisions is directly relevant for predicting the consequences of such policies... Overall, we find that winning a lottery prize immediately and permanently reduces labor earnings for individuals and households, with effects roughly constant over time and lasting more than 10 years"). Studies of the reduction in Social Security benefits in the 1970s suggest that the reduction in benefits increased labor supply. See, for example, Anderson, Kathryn H., Richard V. Burkauer, and Joseph F. Quinn, "Do Retirement Dreams Come True? The Effect of Unanticipated Events on Retirement Plans," 39(4) *Industrial and Labor Relations Review* 518 (July 1986) ("Increases in Social Security wealth significantly increased the probability of retiring early and decreased the probability of retiring late. This result is consistent with those of other researchers who have studied the impact of the Social Security wealth changes..."). In the case of a reduction in the Pension Claims for City employees, the negative wealth effect of reduced recovery of Pension Claims is an incentive for employees to work more – either for the City or for an alternative employer.

however, affect his wealth; a lower recovery rate means he has less available (or expected) pension wealth from work performed in the past. A lower recovery of his Pension Claim can provide an incentive for a City employee to work more, not less, and to care more about the future financial health of the City and his opportunities for promotion and salary increases than if he had a larger expected pension based on his past work, which is the opposite of what the City claims.

39. Thus, economics predicts that an employee such as John Johnson will choose to continue to work for the City if the benefits that he receives from working (namely, his future compensation) exceeds the benefits that he receives from retirement (his retirement income plus the opportunity for non-work activities) or from working elsewhere. The recovery rate of Pension Claims does not affect what John Johnson receives for additional work going forward – it only affects the size of the retirement benefit that he receives when he stops working. A reduced recovery rate lowers his retirement benefit from his past work; this would not create an incentive to work less, but instead make him want to work *more* and harder in the future because his gain from retiring is now lower. In other words, the only direct effect on his labor supply of a lower recovery rate for his Pension Claim is that retirement becomes less attractive relative to continuing to work. To the extent that this has any impact on his labor supply, it would induce him to work more, not less.

40. It also is less likely that a reduced recovery rate of Pension Claims held by retirees or other non-actives would affect the supply of labor to the City than if the Pension Claims are held by current employees.<sup>47</sup> Standard labor supply models do not typically include as an explanatory variable either current or future compensation of people outside a family or household.

41. Retiree pensions could be incorporated into the labor supply decisions of active workers if the pension amount or changes in that amount were informative about what pension amount or other compensation an active employee will receive.<sup>48</sup> For example, if active employees

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<sup>47</sup> As explained above, I understand that more than 80 percent of the Pension Claims are held by employees who are not currently active (and that this calculation will be explained in the expert report on behalf of Syncora by Steven Rosen of FTI that, I understand, will be served on July 29, 2014).

<sup>48</sup> For example, Edward Lazear discusses the cost to firms of violating the implicit or explicit employment contract by terminating workers early or failing to increase their wages. He notes that new workers might “use the firm’s history as an indicator of future honesty” (Lazear, Edward P., “Agency, earnings profiles, productivity, and hours restrictions,” 71(4) *The American Economic Review* (September 1981), 606-620, at 608.)

interpreted a substantial reduction in pensions paid to retirees as a signal of or evidence that current employees will receive smaller or less certain pensions than previously expected, then labor supply models imply that there could be an impact on work and effort decisions of active employees.

42. However, for several reasons, it is unlikely that the Plan's treatment of Pension Claims would have a meaningful impact on expectations of current and future City employees. First, active employees already are informed about how their pension plan post-bankruptcy will differ from the frozen Plans, and know that the new plan is less generous than the one that determined current retirees' benefits. As shown in Exhibit 2, the new PFRS pension plan raises the minimum retirement age and increases the number of years of service to qualify for a pension, reduces the COLA, and reduces the compensation multiplier that determines the pension amount. Current and future PFRS employees will receive these reduced benefits regardless of the recovery rate on past claims.<sup>49</sup> If employee expectations are affected by reductions in pensions, then employees already would have adjusted their expectations based on changes to the pension plans that the City recently implemented. The City has presented no evidence that an additional reduction in the recovery rate of Pension Claims would reduce expectations further, and it certainly has presented no evidence that an additional incremental adjustment in expectations would be large enough on the margin to prevent the City from attracting future employee.

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<sup>49</sup> Exhibit 2 contrasts only some of the features of the new PFRS pension plan. In addition to the changes shown in the exhibit, the new PFRS pension plan will include a defined contribution portion, which requires the City to contribute 11.2 to 12.25 percent of an employee's base compensation annually and requires the employee to contribute six to 12 percent of her base compensation. (See Exhibit I.A.191.b of the Plan.) GRS employees also have a new pension plan. (See Exhibit I.A.189.b of the Plan.)

## Exhibit 2

### PFRS Pension Plan Comparison

	June 2012 Pension Plan	Proposed Pension Plan
Average Base Compensation	<ul style="list-style-type: none"> <li>• Last 5 years of service (DPOA/DFFA)</li> <li>• Last 3 years of service (DPCOA/LSA)</li> </ul>	<ul style="list-style-type: none"> <li>• Last 10 years of service (DPOA/DFFA)</li> <li>• Last 5 years of service (DPCOA/LSA)</li> </ul>
Eligibility	<ul style="list-style-type: none"> <li>• 25 years of service, regardless of age</li> <li>• 20 years of service for eligible DPOA/DFFA members</li> </ul>	<ul style="list-style-type: none"> <li>• 25 years of service</li> <li>• Minimum retirement age is 50 (DPCOA/LSA) or 52 (DPOA/DFFA)</li> </ul>
Multiplier	<ul style="list-style-type: none"> <li>• 2.1 - 2.5%</li> </ul>	<ul style="list-style-type: none"> <li>• 2.0%</li> </ul>
COLA	<ul style="list-style-type: none"> <li>• 2.25% for service earned prior to 4/5/2011 (DPCOA/LSA) and 9/1/2011 (DPOA/DFFA)</li> <li>• No COLA after respective 2011 dates</li> </ul>	<ul style="list-style-type: none"> <li>• No COLA (DPOA/DFFA)</li> <li>• 1% (DPCOA/LSA)</li> </ul>

Sources: Fourth Amended Plan for the Adjustment of Debts of the City of Detroit; Detroit Police and Fire Actuarial Valuation June 30, 2012 (POA00066383).

Notes:

- [1] The annual pension payments are equal to the product of the average base compensation, qualifying years of service, and the multiplier: Annual Pension Payment = (Average Base Compensation) x (Qualifying Years of Service) x (Multiplier).
- [2] Affected unions include the Detroit Police Officers Association ("DPOA"); Detroit Fire Fighters Association ("DFFA"); Detroit Police Command Officers Association ("DPCOA"); and Police Lieutenants and Sergeants Association ("LSA").

43. Second, municipal bankruptcy is a low probability event.<sup>50</sup> According to one report, of “the nation’s 55,000 municipal governments that sell bonds, fewer than 10 file for bankruptcy each year ... Municipal bankruptcies are rare. Of the 55,000 municipal governments in the

<sup>50</sup> “Cities and other municipalities falling on hard financial times is nothing new, but it is rare that any such entity files for bankruptcy as a way of addressing its massive debts. Out of nearly 89,500 municipalities in the country, there were just 239 municipal bankruptcy filings between 1980 and 2010” (Cory Eucalitto et al., *Municipal Bankruptcy: An Overview for Local Officials*,” State Budget Solutions (2/26/2013). The report notes that, since 2010, there have been “a slew of high profile municipal bankruptcy cases.” I discuss this further below.

United States that sell bonds, only 276 have filed for bankruptcy protection since 1980.”<sup>51</sup> The purpose of the Plan, and the condition under which the City can emerge from bankruptcy, is that the extreme conditions under which Pension Claims become a debt subject to bankruptcy law should not reoccur in the future. Current and future employees would therefore be unlikely to consider the treatment of Pension Claims in bankruptcy as indicative of the likelihood of pension commitments in the future. It is even less of a factor in evaluating the overall benefit from working for the City.

## **VI. There Likely Are More Efficient Ways to Motivate Work Effort of Active Employees than Through Increasing Pension Recovery of Retirees**

44. As noted above, in several ways active City employees have been affected adversely over the past decade. First, between 2003 and 2012, the number of uniformed police officers fell from 3,981 to 2,708 (or by 32 percent), while the number of uniformed fire officers declined from 1,368 to 1,190 (by 13 percent).<sup>52</sup> According to the Plan, total DPD headcount declined 40 percent in the past 10 years.<sup>53</sup> The City’s PPS Position Control reports showed a 39.5 percent decline in police employment and a 34.8 percent decline in fire department employment from 2004-2013.<sup>54</sup> In total, according to the Plan Disclosure, “[b]etween 2010 and the Petition Date, the City reduced its employee headcount by more than 2,700 (from 12,302 employees as of the close of Fiscal Year 2010 to approximately 9,591 as of June 30, 2013).”<sup>55</sup>

45. Second, in the last couple of years, the City imposed City Employment Terms (“CETs”) that reduced wages, paid time off, health care coverage and other employment conditions for

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<sup>51</sup> “The State Role in Local Government Financial Distress,” The Pew Charitable Trusts, July 2013. According to another report, “[u]nlike corporations local governments rarely use Bankruptcy, Chapter 9 – generally only special tax districts and small municipalities file. No large issuers of municipal debt (with the exception of Orange County, California in 1994, Bridgeport, Connecticut in 1991, Vallejo, California in 2008, Jefferson County in 2011, Stockton, California in June, 2012, San Bernardino, California in August, 2012 and Detroit in in July of 2013) have filed in the last 30 years. There have been only 652 Chapter 9 filings since 1937. In 2008, 2009, 2010 and 2011 there were 4, 10, 6 and 13 respectively, municipal Chapter 9 filings. In 2012 there have been 12 Chapter 9 filings of which only 3 have been cities, towns or counties (Stockton, Mammoth Lakes and San Bernardino). In 2013, there were 8 Chapter 9 filings and only 1 city, town, village or county, namely Detroit” (“When Is a ‘General’ Obligation Not a ‘General Obligation Bond’?” Chapman Strategic Advisors, Municipal Bond Buyers Conference, February 2014).

<sup>52</sup> City of Detroit, Michigan, “Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2012.”

<sup>53</sup> Plan Disclosure at 118.

<sup>54</sup> PPS Position Reports (POA00548401 and POA00548637).

<sup>55</sup> Plan Disclosure at 126.

active employees.<sup>56</sup> CETs were imposed effective July 17, 2012 for non-union employees and union employees with expired collective bargaining agreements (“CBAs”).<sup>57</sup> According to the City’s summary of historical pay rate adjustments, City employees received periodic wage and benefit increases from 1990 through 2008 but, in recent years, have experienced reductions in compensation and deterioration in work conditions.<sup>58</sup>

46. Third, under the Plan, and as I discussed above, the City will freeze its current pension plans (and guarantee payment of almost unchanged benefits to police and firefighters), while creating a new, substantially less generous pension plan for active workers from mid-2014 (see Exhibit 2 for a comparison of some features of the old and new PFRS plans). As stated in the Plain Language insert for Class 10 PFRS claims, “[t]he pension formula for years of service after July 1, 2014 will be less generous than the formula that currently applies to your pension. You will no longer be entitled to elect into a deferred retirement option (“DROP”), either for your frozen benefit or for your New Accrued Pension.”<sup>59</sup>

47. Fourth, in addition to providing active employees with a pension plan that is less generous than the one in which current retirees participated, active employees likely will not receive OPEB benefits that are as attractive as those that current retirees have and will receive. As part of its Plan, the City proposes to establish a voluntary beneficiary association trust (“VEBA”) into which the City will contribute “its share of a note to be issued to non-pension unsecured creditors.”<sup>60</sup> While acknowledging that it is unlikely that the note will be sufficient “to provide the same level of benefits over the long term as the City began providing in March

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<sup>56</sup> “On July 12, 2012, the [Financial Advisory Board] approved certain CETs effective as of July 17, 2012 for: (a) employees in unions with expired CBAs; and (b) non-union employees. The CETs were imposed on union employees with expired CBAs pursuant to the Consent Agreement. PA 4 suspended the City’s obligation to engage in collective bargaining upon entry of the Consent Agreement. CBAs for approximately 80% of union employees expired as of June 30, 2012; the remaining CBAs expired as of June 13, 2013. Among other things, the CETs provided for (a) wage reductions (implemented through the imposition of furlough days), (b) caps/reductions on vacation/holiday pay/overtime/sick days, (c) the reduction of pension multipliers and (d) changes to healthcare coverage. The City estimated that implementation of the CETs resulted in \$102 million in annual savings (\$25 million in savings attributable to wage reductions; \$59 million in savings attributable to reduced active and retiree benefits; \$9 million in savings attributable to reduced pension costs; and \$8 million in savings attributable to changes to work rules).” Plan Disclosure at 127.

<sup>57</sup> *Id.*

<sup>58</sup> *White Book: 2013-2014 Salary and Wage Adjustments*, Dave Bing, Mayor, June 2013 (POA00144909).

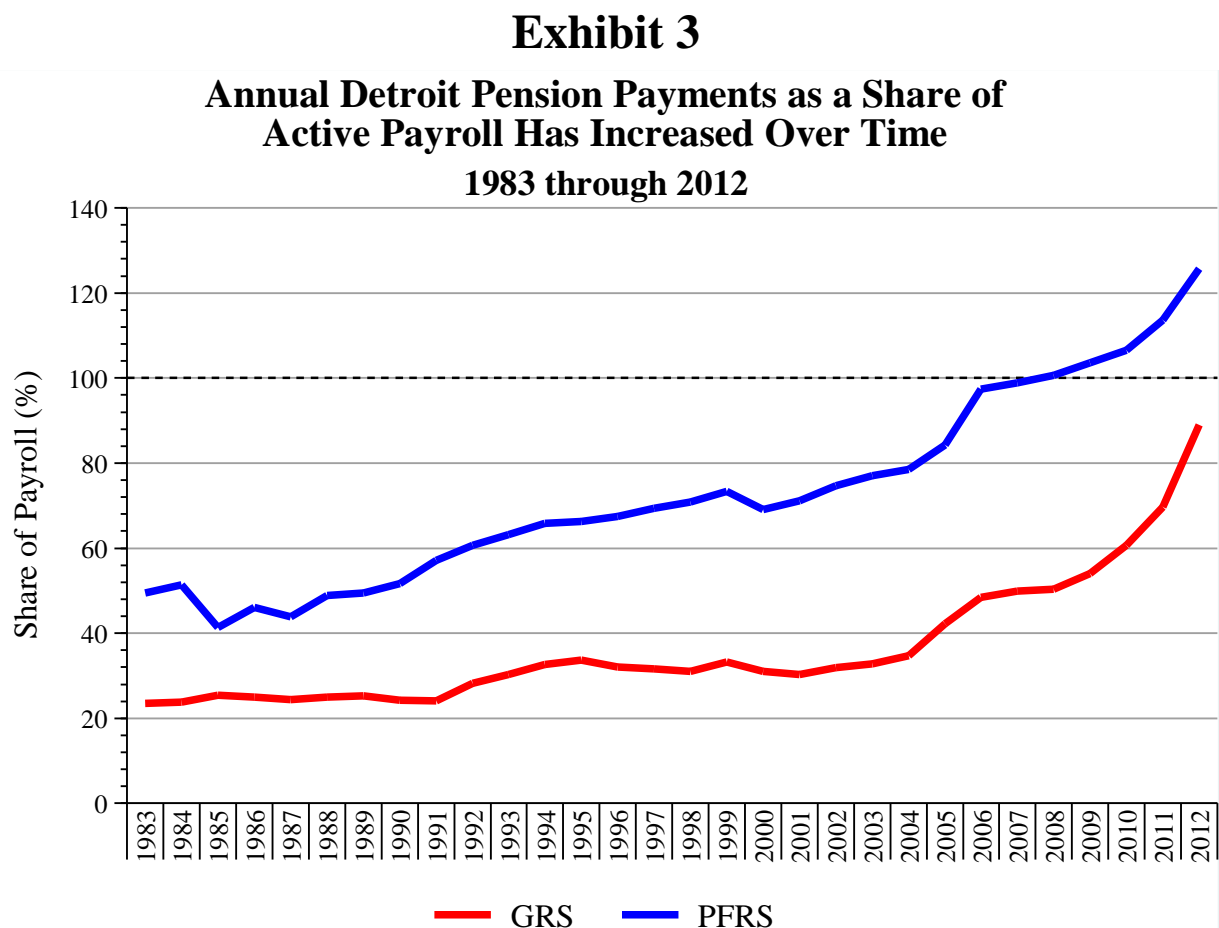
<sup>59</sup> Corrected Motion, Plain Language Insert at 11.

<sup>60</sup> *Notice Regarding Proposed Changes to Post-Employment Healthcare Benefits in the City’s Plan of Adjustment* (“Notice”) at 8.



2014,”<sup>61</sup> the City noted that “[f]uture OPEB benefits, if any, for active employees will be subject to the terms of future contracts between the City and its active employees.”<sup>62</sup> Thus, the City will provide retirees with a note intended to provide retirees with OPEB benefits, while it is not guaranteeing active employees any OPEB benefits.

48. Exhibit 3 shows how pension benefits have increased relative to the amount paid to the active employees responsible for protecting the health and safety of Detroit residents and providing all the other services that residents need and desire.



Sources: Detroit Police and Fire Actuarial Valuation, June 30, 2012 (POA00066383) and GRS Actuarial Valuation, June 30, 2012 (POA00275794).

49. Mr. Hall confirmed that City employees have expressed concern about their own future compensation and working conditions. Mr. Hall said that, when he joined the City in 2013 and

<sup>61</sup> Notice at 8.

<sup>62</sup> Notice at 9.

began familiarizing himself with “the state of the City’s workforce,” he had “a lot of concerned employees.”<sup>63</sup> He described employee concerns as follows:

A. Oh, people had concerns regarding the bankruptcy and, you know, what was going to be the outcome and, you know, how much of *their* salary they could lose, what would *their* health care look like, what would the benefit packages look like, and, you know, how much job security would *they* really have that they thought they had prior to the bankruptcy.

Q. Any other concerns that they raised or is that representative of the principal concerns?

A. You know, those were key concerns that people had because it was all about job security.<sup>64</sup>

He explained further that employees were concerned “How do I provide for my family...How do I plan for my future?” According to Mr. Hall, employees’ three major concerns were about “wages, health care benefits and is my job going to be around,”<sup>65</sup> not about recovery of Pension Claims, particularly Claims of non-active workers. This focus on their future compensation and working conditions is consistent with the economic analysis of labor supply that I presented above.

50. Once it emerges from bankruptcy, the City will have a variety of tools to address the concerns that employees expressed and to motivate active employees. As the economics literature I described above shows, and as Mr. Hall appears to recognize, compensation and working conditions (such as job security<sup>66</sup>), not recovery of pension claims earned through past work, are most directly related to labor supply decisions. Working conditions for active employees – both those now working for the City and those who the City wants to attract in the

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<sup>63</sup> Hall Dep. 92:24-95:5.

<sup>64</sup> Hall Dep. 93:6-20 (emphasis added).

<sup>65</sup> Hall Dep. 93:8-94:5.

<sup>66</sup> As I discuss further below, Mr. Hall explained at his deposition that, to the extent the City has had difficulty attracting “the caliber of people that we want to hire” (Hall Dep. 126:7-8), it is because it is “hard to get individuals to leave employment to come to work for a City that’s in bankruptcy, not knowing what could happen to their total compensation package...[that they] don’t know what’s going to happen from a health care standpoint, if the contribution levels are going to change, from a retirement standpoint. You know, these are things that people look at as far as job security as a total -- as a total compensation ...What’s going to happen coming out of bankruptcy, you know, if you’re employed someplace that has good benefit package, and you’re secure there, why would you leave to go to an unsecure place?” (Hall Dep. 126:9-127:5). He also explained how the City’s future financial stability will affect the City’s hiring ability: “Q. So do you agree that the more the City improves its financial health through this process, the more able it is to attract new talent? A. Correct. Q. Because they will have the comfort that the City will be able to do what it says it’s going to do? A. You’re looking at stability” (Hall Dep. 127:14-20).

future – will be determined by negotiations between the City and its unions and non-union employees, and the City can respond to the need to motivate employees by providing them with the forms of compensation they value most.

51. Mr. Hall found that “our City workers are being paid at a lesser rate than the other people. These other people aren't in bankruptcy” – that the City’s “critical” employees are “underpaid” relative to the labor market from which the City recruits.<sup>67</sup> According to Mr. Hall:

A. Well, we -- one of the things I did when I first went over [to the City], I did, you know, for my hard-to-fill job or those jobs I looked at as real critical, my bus drivers, my EMTs, my accountants, my firemen, my police, I did a quick benchmark of the area to tell me where are we in comparison with those just so I could look at that from a recruiting standpoint so I would know -- my mechanics because those were people that were critical to getting the services we wanted delivered to the city and it came back that, you know, yes, my people were underpaid.

Q. So did you -- what did you collect data on or first, where did you get the data when you were looking for market data on what a mechanic makes, for example?

A. We basically had -- I had [Fox Lawson] do some studies, you know, call around and then do some studies on it.<sup>68</sup>

52. Mr. Hall also explained that he had Fox Lawson call other employers, primarily municipalities (which he considered “as the competition really”<sup>69</sup>), to collect data on “basically the wages” and health care, but not pensions, offered by these employers.<sup>70</sup> Thus, in his initial research to understand the labor market for the “critical” employees that the City needed, Mr. Hall focused on understanding how the City’s wages and healthcare benefits and costs compared with those offered by other employers, not how current and future employees viewed payment rates for past pension benefits.

53. Documents produced by the City support Mr. Hall’s view that compensation of Detroit’s police and firefighters is lower than in other cities. Exhibits 4-6 show that salaries in other large cities are generally higher – and often considerably higher – than those in Detroit for uniformed officers. As shown in Exhibit 4, the median salary for police officers in Chicago, for example, is

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<sup>67</sup> Hall Dep. 80:8-81:4.

<sup>68</sup> Hall Dep. 80:13-81:11.

<sup>69</sup> Hall Dep. 81:15-16.

<sup>70</sup> Hall Dep. 83:24-84:13; see also 92:19-23.

67 percent more than in Detroit, while according to Exhibit 5, the starting salary for police officers in Chicago is 47 percent higher than in Detroit (with the maximum salary for Chicago police officers 80 percent higher than in Detroit). According to Exhibit 6, Detroit firefighters also earn substantially less than in other cities included in the comparison.<sup>71</sup>

54. Even if a higher recovery rate of Pension Claims has some impact on the incentives of active workers – both current and future – to stay with or join the City and to contribute to the City’s recovery, it is a very inefficient form of motivation compared with direct increases in employee compensation or improvement in working conditions. At best, only some fraction of current employees (and likely no future employees) value retirees’ increased recovery rate, while all or virtually all current and future employees will value increases in their own compensation, improved working conditions and greater job security. To the extent that the City needs to provide enhanced incentives to motivate its employees, increasing future wages and benefits would be far more effective.<sup>72</sup>

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<sup>71</sup> These comparisons are undated. According to the City of Detroit White Book (POA00144909), the minimum and maximum salaries for a “POLICE OFFICER 2-20-95” effective July 1, 2013 and also in the previous year were \$29,352 and \$47,914, respectively, which matches the starting and maximum salaries for Detroit police officers shown in Exhibit 5. According to the White Book, minimum and maximum pay rates for “FIRE FIGHTER 2-20-95 1<sup>ST</sup> STEP” are \$29,352 and \$33,065, respectively, which are the starting and maximum salaries for Detroit firefighters shown in Exhibit 6 (the starting salary in Exhibit 6 is \$29,325 as stated in the source document). The White Book shows that “POLICE OFFICER 2-20-95 1<sup>ST</sup> STEP” also has minimum and maximum pay rates of \$29,352 and \$33,065, respectively. The minimum and maximum salaries for a “FIRE FIGHTER 2-20-95,” which may be more comparable to the title that is used in Exhibit 5 for comparing police-officer pay rates, are \$29,352 and \$47,913, respectively (nearly the same as for “POLICE OFFICER 2-20-95”). Based on a maximum firefighter salary of \$47,913, the differences between Detroit and Chicago, Cleveland, Dearborn, Livonia and Sterling Heights are 89, 12, 34, 33, and 48 percent, respectively. See POA00144909 and POA00223811, undated.

<sup>72</sup> At his deposition, Kevyn Orr acknowledged that “their go-forward wages, their go-forward healthcare benefits, their go-forward pension plan, and their go-forward working conditions” “factor[ed] principally into [his] judgment about what it takes to retain [employees]” – that “when it comes to me as emergency manager that is trying to make a determination to incentivize active employees to continue to work and stay with the City, [the four “go-forward” areas] are factors that I take into account” (Orr Dep. 252:24-253:20). See also Orr Dep. 259:2-260:4 (explaining that “drivers on retaining and attracting employees where there have been problems have principally been differentials in wage and difficult working conditions” and healthcare options).

## Exhibit 4

### Police Officers Earn Less in Detroit Than in Other Regions

City or Region	Median Salary	Difference from Detroit
<b>Detroit, MI</b>	<b>\$38,633</b>	
<i>Other Cities:</i>		
Chicago, IL	\$64,617	67%
Baltimore, MD	\$56,515	46%
Philadelphia, PA	\$52,205	35%
Cleveland, OH	\$51,411	33%
Pittsburgh, PA	\$49,658	29%
St. Louis, MO	\$47,451	23%
<i>Michigan:</i>		
Sterling Heights, MI	\$61,202	58%
Warren, MI	\$56,389	46%
Livonia, MI	\$54,750	42%
Michigan State Police	\$50,494	31%
Wayne County, MI	\$34,200	-11%
Flint, MI	\$25,668	-34%

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Source: POA00081466 (undated).

## Exhibit 5

### Police Officers Earn Less in Detroit Than in Other Cities

City	Starting Salary		Maximum Salary	
	Salary	Difference from Detroit	Salary	Difference from Detroit
<b>Detroit, MI</b>	<b>\$29,352</b>		<b>\$47,914</b>	
Chicago, IL	\$43,104	47%	\$86,130	80%
Cleveland, OH	\$47,282	61%	\$55,540	16%
Dearborn, MI	\$44,706	52%	\$63,183	32%
Livonia, MI	\$45,552	55%	\$63,948	33%
Sterling Heights, MI	\$47,979	63%	\$74,421	55%

Source: POA00223811 (undated).

## Exhibit 6

### Fire Fighters Earn Less in Detroit Than in Other Cities

City	Starting Salary		Maximum Salary	
	Salary	Difference from Detroit	Salary	Difference from Detroit
<b>Detroit, MI</b>	<b>\$29,325</b>		<b>\$33,065</b>	
Chicago, IL	\$50,490	72%	\$90,378	173%
Cleveland, OH	\$45,904	57%	\$53,890	63%
Dearborn, MI	\$45,959	57%	\$64,120	94%
Livonia, MI	\$45,136	54%	\$63,939	93%
Sterling Heights, MI	\$44,253	51%	\$70,829	114%

Source: POA00223811 (undated).

#### **VII. Available Evidence Does Not Indicate that the City Has Had Trouble Retaining or Attracting Employees**

55. A variety of data indicates that the City has been and will remain able to attract and keep employees, and that the recovery rate of past Pension Claims is not essential to that ability.

56. First, as shown in Exhibit 7, the Detroit unemployment rate has been declining but remains considerably higher than in other major cities. Mr. Hall said at his deposition that,

because of the limited employment opportunities in Detroit, attrition of City employees was not a problem:

Q: ...[W]hen you first joined [the City]...did you find attrition was a problem?

A. I don't view attrition as being a major problem right now, and I say that because of the state of the economy here in Detroit.

Q. You anticipated my next question, but go ahead.

A. Because there are not a lot of options here in the city.

Q. You have a high unemployment in the city of Detroit?

A. That's correct.

Q. And when you have high unemployment, you tend to see people stay at their job?

A. Thank you.

Q. Correct?

A. That's it.<sup>73</sup>

According to Mr. Hall, "due to the economic conditions of the city, you're not going to have a lot of people leaving secure jobs with benefits."<sup>74</sup>

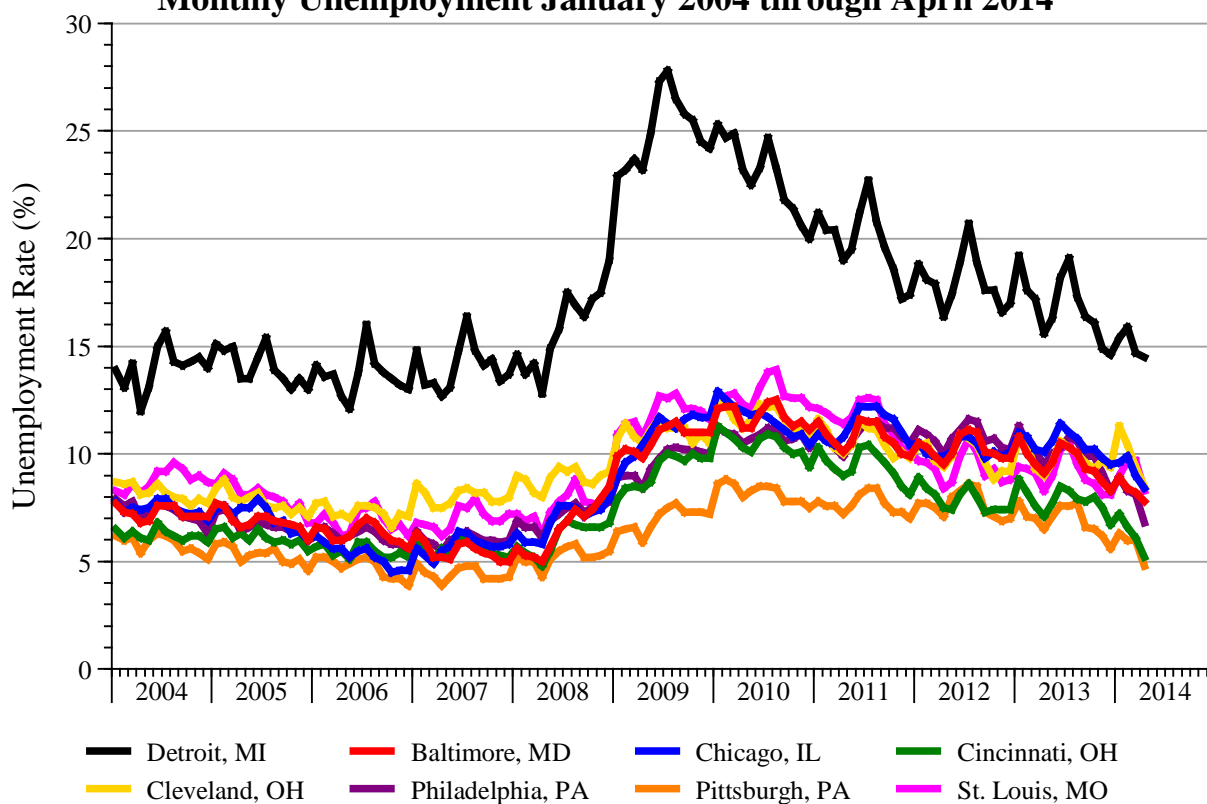
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<sup>73</sup> Hall Dep. 111:11-112:7.

<sup>74</sup> Hall Dep. 113:13-16.

## Exhibit 7

### Detroit Unemployment Is Higher Than That of Other Cities Monthly Unemployment January 2004 through April 2014



Source: BLS.

57. Second, recent hiring efforts by the City show that it remains a place that people want to work, despite the City's financial difficulties and the decline in compensation. As described by Mr. Orr,

During the last three years, the City has implemented compensation reductions to its work force in the form of budget-required furlough days ("BRF"), wage reductions and reductions in other wage related items, such as vacation days, sick days, longevity payments and overtime rules. The City implement BRFs equivalent to 10% of wages (one furlough day every other week) to non-uniform employees in September 2009. In August 2012, as part of the CET implementation, BRFs were eliminated for non-uniform employees and replaced with a permanent 10% wage reduction. Additional BRFs were implemented in February 2013 affecting certain non-uniformed employees.<sup>75</sup>

<sup>75</sup> City of Detroit, *Proposal for Creditors: Executive Summary*, June 14, 2013, at 30.



The CETs also imposed a 10% wage reduction on Detroit Police Officer Association (“DPOA”) members in August 2012, [which was reduced] to 5% effective January 2014.<sup>76</sup>

58. Despite declines in working conditions, there were many applications in response to the City’s recent hiring efforts for its Police and Fire Departments. According to press reports, more than 650 people applied for 40 open Detroit Police Department positions in August 2013 (more than 16 applications per open position), and 1,600 people applied for 90 open Fire Department positions (almost 18 per open position) in October 2013.<sup>77</sup> The City hired 102 new police officers between January 1, 2013 and April 16, 2014; of the 56 hired in the first two of the four Recruit Classes during this time period, 45 graduated from basic training.<sup>78</sup> When asked whether, since joining the City, there have been “any positions that the City has not been able to fill with qualified applicants,” Mr. Hall said “Not that I can acknowledge,”<sup>79</sup> that job fairs he attended since joining the City “generated a significant level of interest” including one where the City received over 2,500 applicants,<sup>80</sup> and that during his tenure the number of applications the City has received “for similar types of positions” has been fairly consistent.<sup>81</sup>

59. Mr. Hall explained further that the “majority of our jobs that we’ve hired for this year have been in my police and fire, EMTs, bus drivers,”<sup>82</sup> and he has hired applicants from nearby communities, not from other municipalities.<sup>83</sup> Mr. Hall explained that, when he joined the City, EMTs, firefighter, bus driver, and mechanics were considered “hard to fill” jobs, and that he put mechanisms into place to fill those jobs because “those were key -- key jobs that were vacant at the time that I wanted to make sure that we fill those vacancies because, again, we want to improve our response time for our EMTs. I had tremendous need for firefighters, so I need to get

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<sup>76</sup> City of Detroit, *Proposal for Creditors: Executive Summary* at 31.

<sup>77</sup> “More than 650 apply for 40 open Detroit police officer positions,” MLive, August 19, 2013 ([http://blog.mlive.com/news/detroit\\_impact/print.html?entry=/2013/08/more\\_than\\_650\\_apply\\_for\\_40\\_o.html](http://blog.mlive.com/news/detroit_impact/print.html?entry=/2013/08/more_than_650_apply_for_40_o.html) (last visited 5/29/2014)); “Detroit Fire Dept. hiring 90 fire fighters,” Fox Detroit, October 18, 2013 (<http://www.myfoxdetroit.com/story/23732349/detroit-fire-dept-hiring-90-fire-fighters> (last visited 5/29/2014)); “Final Day to Apply for a Job as Detroit Firefighter,” CBS Detroit, October 25, 2013 (<http://detroit.cbslocal.com/2013/10/25/last-day-to-apply-for-job-as-detroit-firefighter/> (last visited 5/29/2014)).

<sup>78</sup> POA00684247. According to this document, the graduation rate currently is unknown for the third and fourth Recruit Classes.

<sup>79</sup> Hall Dep. 164:11-16.

<sup>80</sup> Hall Dep. 164:18-165:4.

<sup>81</sup> Hall Dep. 165:18-22.

<sup>82</sup> Hall Dep. 166:13-15.

<sup>83</sup> Hall Dep. 166:16-167:2.

the firefighters back out there in the streets. I had my busses that weren't moving, weren't -- weren't prepared. I need to make sure I got my busses prepared -- repaired, I need to have bus drivers. So those were services that we were concentrating on making sure we improved for the citizens here in the city.”<sup>84</sup> Once he identified those needs, he was able to address them:

Q. Got it, okay. So and what, did you ask someone, okay, I want to pull together a position of all the open EMT positions so that I can track how long it's going -- how long it takes to fill them up?

A. Because those people go in classes. They, you know, we train them in classes, so I wanted to make sure I had my pulled people ready for the classes when they were -- when we were ready to train.

Q. And did you say something like they are no longer hard-to-fill jobs because you filled them?

A. That's correct.

Q. So you have addressed all of those -- those hiring needs that you had when you started?

A. That's correct.<sup>85</sup>

Mr. Hall was able to fill positions that he considered (or was told) were most critical for the City, despite the City's financial difficulties.<sup>86</sup>

60. Fourth, the City generally appears able to retain employees, at least until they are eligible to retire and receive their pension. Between January 1, 2013 and April 16, 2014, 259 members separated from the DPD, of which 183 (71 percent) retired and 66 (25 percent) resigned.<sup>87</sup> Of those that resigned and explained why during an exit interview, 40 (61 percent) resigned to pursue other employment.<sup>88</sup> To put this in perspective, during a period of over 15 months, 40 of the approximately 2,700<sup>89</sup> members of the DPD, or about 1.5 percent, indicated that they had

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<sup>84</sup> Hall Dep. 185:24-186:11.

<sup>85</sup> Hall Dep. 186:12-187:3.

<sup>86</sup> Mr. Orr said that he believes that that the first plan of adjustment (proposed on February 21, 2014), which “proposed cuts of approximately 26 percent to the face amount of GRS pensions and 6 percent to the face amount of PFRS pensions if the Grand Bargain were approved” “presented a feasible way forward for the City” (Orr Dep. 195:8-22). The fact that this first plan was presented as sufficient for the City to move out of bankruptcy suggests that the current disproportionate recovery rate of Pension Claims is not essential to the City's successful future.

<sup>87</sup> POA00684303. The rest died or were dismissed.

<sup>88</sup> POA00684247.

<sup>89</sup> According to the PPS Position report (POA00548401), there were 2,616 police department employees in mid-2013. According to POA00276200, there were 2,768 DPD employees in mid-2013.

resigned to take other employment. If the other 17 that resigned and for whom no explanation was documented had resigned to take other employment, the total resignations during this 15+ month period would be slightly over two percent of total members of the DPD. The City's ability to hire and retain workers does not suggest that it is having difficulty retaining employees that would require incentivizing active employees through disproportionate recovery of retirees' Pension Claims.<sup>90</sup> Moreover, as I discussed above, enhanced recovery for past claims would increase rather than reduce an employee's incentive to retire (the opposite of the City's claims).

61. Fifth, if the City has difficulty attracting police officers when it competes to attract or keep workers who are qualified and willing to work in nearby suburbs or in other large cities, this likely is because salaries of City employees are lower than those of comparable workers in other geographic areas, and not because the City did not disproportionately favor retirees over other creditors.<sup>91</sup> Mr. Hall acknowledged that critical City employees are "underpaid" relative to what other municipalities pay<sup>92</sup> (as shown also in Exhibits 4-6). It would not be surprising if attractive candidates that can choose between the two cities prefer to work in Chicago. The City offers no reason to expect that the recovery rate for Pension Claims of retirees would affect a candidate's preference between the two cities.<sup>93</sup>

62. Finally, the City modified retiree healthcare benefits effective March 1, 2014, after making clear for about a year its intention to do so.<sup>94</sup> This reduction would be expected to have a

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<sup>90</sup> According to the 2011 Human Capital Benchmarking Report, average annual turnover rate across industries in the US was 15% in 2011-2012. The highest average annual turnover rates were food and drink (35%), arts entertainment and recreation (27%) and retail and wholesale trade (22%). Lowest were high tech (11%), municipalities (9%), trade associations (8%) and utilities (8%). (See "Survey Research Yields Data on Employee Turnover," National Business Research Institute (<http://www.nbrii.com/employee-survey-white-papers/survey-research-yields-data-on-employee-turnover/>) (last visited 7/11/14)).

<sup>91</sup> A DPD analysis concluded that, at the time of the analysis, annualized wages of police officers in other cities against which Detroit benchmarks were about \$12,000 (29-44%) more than Detroit police officers (POA00081466, undated).

<sup>92</sup> Hall Dep. 80:8-81:4.

<sup>93</sup> Mr. Orr testified that issues with attrition and attracting employees "are driven principally by differing levels of...wage compensation and difficult working conditions": "I don't know how you would rate, you know, maybe 10 percent working conditions and maybe 90 percent wages and maybe the other way around" (258:3-9); "it is understandable that for some folks, having that level of challenge at a one-third percent less pay compared to your colleagues in other agencies, is not something that's necessarily attractive" (258:19-23) (discussing uniformed employees).

<sup>94</sup> "City of Detroit – Restructuring Plan (Executive Summary): Mayor's Implementation Progress Report," March 2013, at pp. 1,4-5. ("Mayor Bing has a viable Restructuring Plan to address the financial issues facing the City of Detroit, [which includes]...[d]eveloping healthcare reform strategy for actives and retirees") (<http://www.detroitmi.gov/Portals/0/docs/mayor/Financial%20Update/Executive%20Summary%20of%20Mayor%20>

similar impact to reducing retirees' Pension Claims. Yet, I am not aware that the City took into account how reducing OPEB benefits for current retirees would affect active employees' morale and commitment to the City's financial future.

63. Thus, available evidence shows that (1) the City has been able to attract and retain employees; and (2) if it has difficulty in the future, the most effective way to attract, retain and motivate employees is by offering them higher compensation and better working conditions, not improving retirees' recovery of their Pension Claims.

#### **VIII. Private Firms and Other Municipalities Have Obtained Concessions by Employees to Address Financial Difficulties**

64. If the City had a reason for concern that a reduction in the recovery rate of Pension Claims would prevent the City from “recover[ing] from its decades-long downward spiral and ... function[ing] properly,”<sup>95</sup> then I would not expect to find employee and retiree concessions in the private sector. However, employees of firms in financial difficulty have agreed to reduced wages or benefits. A September 2007 report by the United States Government Accountability Office (“GAO”) that addressed “(1) how, if at all, recent legislative changes affected the treatment of pension and health benefits during chapter 11 bankruptcies, and (2) what is known about the extent to which businesses have modified employee or retiree pension and health benefits”<sup>96</sup> discusses modifications made to Collective Bargaining Agreements (“CBAs”) and cites several examples of CBA changes that included compensation concessions. These include reduction in wages and/or retirement benefits of employees at ATA Holdings (“20 percent wage cut”), Dana (“Terminated nonpension retiree benefits”), Delphi Corporation (“Froze DB pensions and started a 401(k) plan”), Delta Airlines (“Terminated pilots’ DB plan”), Falcon

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0Bing%20Progress%20Report.pdf (last visited 7/22/14.) See also “Detroit Manager Proposes Moving Retirees Off City’s Healthcare,” Mint Press News, 7/3.2013 (<http://www.mintpressnews.com/detroit-manager-proposes-moving-retire> (last visited 7/23/2014)).

<sup>95</sup> Consolidated Reply to Certain Objections ¶66: “If the City is to recover from its decades-long downward spiral and to function properly, it must have a workforce that is incentivized and motivate to provide the services that the City needs to function and attract residential and commercial growth.”

<sup>96</sup> Highlights of U.S. General Accounting Office, “Employer-Sponsored Benefits: Many Factors Affect the Treatment of Pension and Health Benefits in Chapter 11 Bankruptcy,” GAO-07-1101 (September 2007) (“GAO Report”).

Products (“Terminated DB plan ... and started a 401(k) with no match”), Northwest Airlines (“21 percent wage reduction”), and Tower Automotive (“4 percent wage reduction”).<sup>97</sup>

65. There are other examples of workers accepting concessions to wages, pensions or healthcare benefits:

- In 2014, workers at Boeing in Washington state agreed to a contract extension that phases out the traditional pension plan and replaces it with a defined contribution program over time. Boeing also increased employee healthcare costs.<sup>98</sup>
- In 2012, workers for Caterpillar in Joliet, Illinois agreed to reduced health care and pension benefits and a wage freeze. They also agreed to switch from a defined benefit retirement plan to a defined contribution retirement plan.<sup>99</sup>
- In 2012, the Machinists Union at Lockheed Martin agreed to switch from a defined benefit retirement plan to a less generous defined contribution retirement plan for new workers.<sup>100</sup>
- In 2012, workers in the Landline and FiOS Internet Division at Verizon agreed to a new contract that replaced traditional pensions with defined contribution plans for new

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<sup>97</sup> GAO Report, Table 3.

<sup>98</sup> “Boeing Workers Approve 8-Year Contract Extension,” New York Times, 1/4/2014

(<http://www.nytimes.com/2014/01/05/business/boeing-workers-approve-contract-tied-to-777x.html>) (last visited 7/11/14)); Boeing Machinists’ Plight Marks Changing Times for Labor,” NPR, 1/15/2014

(<http://www.npr.org/2014/01/15/262165973/boeing-machinists-plight-marks-changing-times-for-labor>) (last visited 7/11/14)).

<sup>99</sup> “Caterpillar Union Bows to Demands,” Wall Street Journal, 8/17/2012

(<http://online.wsj.com/news/articles/SB10000872396390444375104577595342394784960>) (last visited 7/2/14));

“Striking Caterpillar Workers Ratify Contract Offer,” New York Times, 8/17/2012

(<http://www.nytimes.com/2012/08/18/business/striking-caterpillar-workers-ratify-contract-offer.html>) (last visited 7/2/14)).

<sup>100</sup> “Lockheed Martin and Machinists Reach Agreement,” New York Times, 6/24/2012

(<http://www.nytimes.com/2012/06/25/business/lockheed-martin-and-machinists-reach-agreement.html>) (last visited 7/2/14)); “Lockheed contract Wins Approval of Union Bargainers,” New York Times, 6/25/2012

(<http://www.nytimes.com/2012/06/25/business/lockheed-martin-and-machinists-reach-agreement.html>) (last visited 7/2/14)).

workers. Workers also agreed to pay 20 percent of their healthcare costs – about double the previous percentage.<sup>101</sup>

- In 2009, the United Autoworkers Union agreed to several concessions at Ford Motor Company, including reductions in the retiree health fund (Ford substituted its stock for around half of the \$13.6 billion it owed the fund), restrictions on overtime and unemployment pay, and reductions to negotiated cost-of-living salary adjustments. The union president stated that “[t]he modifications will protect jobs for UAW members by ensuring the long-term viability of the company.”<sup>102</sup>
- In 2003, United Airlines employees agreed to wage and benefit concessions valued at a \$2.56 billion per year. Wages of flight attendants were reduced about nine percent, while pilots’ wages were reduced about 30 percent. The President of the Mechanics Union said that the concessions were needed to help strengthen United financially: “Our members are providing United Airlines with the means to successfully restructure and avoid liquidation. The problems and solutions of the airline’s latest crisis go far beyond labor costs, but immediate action was needed to ensure the survival of the airline.”<sup>103</sup>

66. These examples are inconsistent with the City’s apparent claim that additional employee or retiree concessions on Pension Claims are necessary in order for the City to emerge from bankruptcy and be successful in the future. Moreover, many of the concessions discussed above reduced future compensation and so, unlike a reduction in the recovery rate of Pension Claim, would be expected to affect employee incentives to work for the employer in the future. These examples suggest that, even when employers reduce employee compensation in a way that

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<sup>101</sup> “4-Year Deals for Unions at Verizon,” New York Times, 9/19/2012 (<http://www.nytimes.com/2012/09/20/business/verizon-workers-reach-4-year-tentative-pacts.html> (last visited 7/2/14)).

<sup>102</sup> “UAW Agrees to Health Care Concession at Ford,” New York Times, 2/24/2009 (<http://www.nytimes.com/2009/02/24/business/24auto.html> (last visited 7/2/14)); “UAW Says Ford Workers Ratified Concessions,” Wall Street Journal, 3/10/2009 (<http://online.wsj.com/news/articles/SB123662654608974841#printMode> (last visited 7/2/14)); “Turning Around an American Icon, How Ford went from Losing more than \$30 billion to Posting Big Profits,” Cleveland.com, 1/29/2011 ([http://blog.cleveland.com/business\\_impact/print.html?entry=/2011/01/turning\\_around\\_an\\_american\\_ico.html](http://blog.cleveland.com/business_impact/print.html?entry=/2011/01/turning_around_an_american_ico.html) (last visited 7/2/14)).

<sup>103</sup> “United Machinists’ Union Approves Pay Concessions,” New York Times, 5/1/2003 (<http://www.nytimes.com/2003/05/01/business/united-machinists-union-approves-pay-concessions.html?pagewanted=print> (last visited 7/2/14)).

directly reduces employee gains to working for the employer in the future (e.g., a reduction in wages), the employer can compete for labor and remain viable. Indeed, in many cases these reductions were made precisely for the purposes of increasing the future viability of the organization, and employee representatives commented that they were willing to make concessions to allow their employer to be viable.<sup>104</sup>

67. Similarly, evidence from other recent municipal bankruptcies shows that reduction in pensions or other benefits do occur. For example:

- Retired police and firefighters in Central Falls, Rhode Island agreed to sharp pension cuts to help Central Falls emerge from bankruptcy in 2012. They agreed to cuts of up to 55 percent of each retiree's benefit, reduced COLAs, and reduced contributions to health care.<sup>105</sup>
- The city of Vallejo California filed for Chapter 9 bankruptcy in 2008.<sup>106</sup> In January 2010, the city unilaterally reduced the health benefits of some of its retired workers.<sup>107</sup>

As noted above, the City unilaterally reduced OPEB benefits (for retirees) and I am not aware that it considered that this would prevent it from successfully moving forward.

## **IX. Conclusion**

68. Neither economic theory nor empirical evidence that I have examined indicates that a reduction in the recovery rate of Pension Claims would meaningfully affect the City's ability to attract and retain workers going forward. City employees are more likely to be motivated by the wages and benefits that they expect to earn for future work than by a pension that they or retirees' earned for past work. Evidence suggests that the City continues to be able to hire and retain workers despite other reductions in employee compensation already made. Contrary to the

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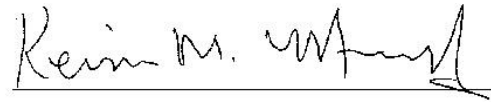
<sup>104</sup> See, for example, the Ford Motor Company and United Airlines examples discussed above.

<sup>105</sup> "In Rhode Island Bankruptcy, Bondholders Came First," Fox Business, 7/24/2013 (<http://www.foxbusiness.com/government/2013/07/24/in-rhode-island-bankruptcy-bondholders-came-first/>) (last visited 5/27/2014)). Rhode Island approved a one-time \$2.6 million appropriation to Central Falls to soften the impact of pension cuts. "The State Role in Local Government Financial Distress," The Pew Charitable Trusts, July 2013.

<sup>106</sup> "Case study: The Vallejo, California Bankruptcy," Standard and Poor's Ratings Direct, October 4, 2012.

<sup>107</sup> Ellman, Jeffrey B., and Daniel J. Merrett, "Pensions and Chapter 9: Can municipalities use bankruptcy to solve their pension woes?" 27 *Emory Bankruptcy Developments Journal* (2010) 365-413.

City's claims, providing disproportionate recovery for Pension Claims is unlikely to be necessary to the City's recovery.

A handwritten signature in black ink, reading "Kevin M. Murphy". The signature is written in a cursive style with a horizontal line underneath the name.

Kevin M. Murphy

July 25<sup>th</sup>, 2014



## **Appendix A**

## *Curriculum Vitae*

### **Kevin M. Murphy**

July 2014

#### *Business Address:*

The University of Chicago  
Booth School of Business  
5807 South Woodlawn Avenue  
Chicago, Illinois 60637  
email: [kevin.murphy@chicagobooth.edu](mailto:kevin.murphy@chicagobooth.edu)

#### *Home Address:*

1810 Pennington Court  
New Lenox, Illinois 60451  
Phone: (815)463-4756  
Fax: (815)463-4758

#### **Current Positions**

July 2005-Present: George J. Stigler Distinguished Service Professor of Economics,  
Department of Economics and Booth School of Business, The University of Chicago

Faculty Research Associate, National Bureau of Economic Research

#### **Education**

University of California, Los Angeles, A.B., Economics, 1981

The University of Chicago, Ph.D., 1986

Thesis Topic: *Specialization and Human Capital*

#### **Previous Research and Academic Positions**

2002-2005: George J. Stigler Professor of Economics, Department of Economics and  
Booth School of Business, The University of Chicago

1993 – 2002: George Pratt Shultz Professor of Business Economics and Industrial  
Relations, The University of Chicago

1989 – 1993: Professor of Business Economics and Industrial Relations, The University  
of Chicago

1988 – 1989: Associate Professor of Business Economics and Industrial Relations, The  
University of Chicago

1986 – 1988: Assistant Professor of Business Economics and Industrial Relations, The University of Chicago

1983 – 1986: Lecturer, Booth School of Business, The University of Chicago

1982 – 1983: Teaching Associate, Department of Economics, The University of Chicago

1979 – 1981: Research Assistant, Unicon Research Corporation, Santa Monica, California

### **Honors and Awards**

2008: John von Neumann Lecture Award, Rajk College, Corvinus University, Budapest

2007: Kenneth J. Arrow Award (with Robert H. Topel)

October 2005: Garfield Research Prize (with Robert H. Topel)

September 2005: MacArthur Foundation Fellow

1998: Elected to the American Academy of Arts & Sciences

1997: John Bates Clark Medalist

1993: Fellow of The Econometric Society

1989 – 1991: Sloan Foundation Fellowship, The University of Chicago

1983 – 1984: Earhart Foundation Fellowship, The University of Chicago

1981 – 1983: Fellowship, Friedman Fund, The University of Chicago

1980 – 1981: Phi Beta Kappa, University of California, Los Angeles

1980 – 1981: Earhart Foundation Fellowship, University of California, Los Angeles

1979 – 1981: Department Scholar, Department of Economics, University of California, Los Angeles

### **Publications**

#### **Books**

Social Economics: Market Behavior in a Social Environment with Gary S. Becker, Cambridge, MA: Harvard University Press (2000).

Measuring the Gains from Medical Research: An Economic Approach, edited volume with Robert H. Topel, Chicago: The University of Chicago Press (2003).

## Articles

“Government Regulation of Cigarette Health Information,” with Benjamin Klein and Lynne Schneider, 24 *Journal of Law and Economics* 575 (1981).

“Estimation and Inference in Two-Step Econometric Models,” with Robert H. Topel, 3 *Journal of Business and Economic Statistics* 370 (1985).

“Unemployment, Risk, and Earnings: Testing for Equalizing Wage Differences in the Labor Market,” with Robert H. Topel, in Unemployment and the Structure of Labor Markets, pp. 103-139, ed. Kevin Lang and Jonathan S. Leonard. London: Basil Blackwell (1987).

“The Evolution of Unemployment in the United States: 1968-1985,” with Robert H. Topel, in NBER Macroeconomics Annual, pp. 11-58, ed. Stanley Fischer. Cambridge, MA: MIT Press (1987).

“Cohort Size and Earnings in the United States,” with Mark Plant and Finis Welch, in Economics of Changing Age Distributions in Developed Countries, pp. 39-58, ed. Ronald D. Lee, W. Brian Arthur, and Gerry Rodgers. Oxford: Clarendon Press (1988).

“The Family and the State,” with Gary S. Becker, 31 *Journal of Law and Economics* 1 (1988).

“A Theory of Rational Addiction,” with Gary S. Becker, 96 *Journal of Political Economy* 675 (1988).

“Vertical Restraints and Contract Enforcement,” with Benjamin Klein, 31 *Journal of Law and Economics* 265 (1988).

“Income Distribution, Market Size, and Industrialization,” with Andrei Shleifer and Robert W. Vishny, 104 *Quarterly Journal of Economics* 537 (1989).

“Wage Premiums for College Graduates: Recent Growth and Possible Explanations,” with Finis Welch, 18 *Educational Researcher* 17 (1989).

“Industrialization and the Big Push,” with Andrei Shleifer and Robert W. Vishny, 97 *Journal of Political Economy* 1003 (1989).

“Building Blocks of Market Clearing Business Cycle Models,” with Andrei Shleifer and Robert W. Vishny, in NBER Macroeconomic Annual, pp. 247-87, ed. Olivier Jean Blanchard and Stanley Fischer. Cambridge, MA: MIT Press (1989).

“Efficiency Wages Reconsidered: Theory and Evidence,” with Robert H. Topel, in Advances in the Theory and Measurement of Unemployment, pp. 204-240. ed. Yoram Weiss and Gideon Fishelson. London: Macmillan (1990).

“Empirical Age-Earnings Profiles,” with Finis Welch, 8 *Journal of Labor Economics* 202 (1990).

“Human Capital, Fertility, and Economic Growth,” with Gary S. Becker and Robert F. Tamura, 98 *Journal of Political Economy*, S12 (1990).

“Accounting for the Slowdown in Black-White Wage Convergence,” with Chinhui Juhn and Brooks Pierce, in Workers and Their Wages: Changing Patterns in the United States, pp. 107-143, ed. Marvin Kesters. Washington, D.C.: American Enterprise Institute (1991).

“The Role of International Trade in Wage Differentials,” with Finis Welch, in Workers and Their Wages: Changing Patterns in the United States, pp. 39- 69, ed. Marvin Kesters. Washington, D.C.: American Enterprise Institute (1991).

“Why Has the Natural Rate of Unemployment Increased over Time?” with Robert H. Topel and Chinhui Juhn, 2 *Brookings Papers on Economic Activity* 75 (1991).

“The Allocation of Talent: Implications for Growth,” with Andrei Shleifer and Robert W. Vishny, 106 *Quarterly Journal of Economics* 503 (1991).

“Rational Addiction and the Effect of Price on Consumption,” with Gary S. Becker and Michael Grossman, 81 *American Economic Review* 237 (1991).

“Wages of College Graduates,” in The Economics of American Higher Education, pp. 121-40, ed. William E. Becker and Darrell R. Lewis. Boston: Kluwer Academic Publishers (1992).

“Changes in Relative Wages, 1963-1987: Supply and Demand Factors,” with Lawrence F. Katz, 107 *Quarterly Journal of Economics* 35 (1992).

“The Structure of Wages,” with Finis Welch, 107 *Quarterly Journal of Economics* 285 (1992).

“The Transition to a Market Economy: Pitfalls of Partial Planning Reform,” with Andrei Shleifer and Robert W. Vishny, 107 *Quarterly Journal of Economics* 889 (1992).

“The Division of Labor, Coordination Costs, and Knowledge,” with Gary S. Becker, 107 *Quarterly Journal of Economics* 1137 (1992).

“Industrial Change and the Rising Importance of Skill” with Finis Welch, in Uneven Tides: Rising Inequality in America, pp. 101-132, ed. Peter Gottschalk and Sheldon Danziger. New York: Russell Sage Foundation Publications (1993).

“Wage Inequality and the Rise in Returns to Skill,” with Chinhui Juhn and Brooks Pierce, 101 *Journal of Political Economy* 410 (1993).

“Occupational Change and the Demand for Skill, 1940-1990,” with Finis Welch, 83 *American Economic Review* 122 (1993).

“Inequality and Relative Wages,” with Finis Welch, 83 *American Economic Review* 104 (1993).

“Why Is Rent-Seeking So Costly to Growth?” with Andrei Shleifer and Robert W. Vishny, 83 *American Economic Review* 409 (1993).

“A Simple Theory of Advertising as a Good or Bad,” with Gary S. Becker, 108 *Quarterly Journal of Economics* 941 (1993).

“Relative Wages and Skill Demand, 1940-1990,” with Chinhui Juhn, in Labor Markets, Employment Policy, and Job Creation, pp. 343-60, ed. Lewis C. Solmon and Alec R. Levenson. The Milken Institute Series in Economics and Education. Boulder, CO: Westview Press (1994).

“Cattle Cycles,” with Sherwin Rosen and Jose A. Scheinkman, 102 *Journal of Political Economy* 468 (1994).

“An Empirical Analysis of Cigarette Addiction,” with Gary S. Becker and Michael Grossman, 84 *American Economic Review* 396 (1994).

“Inequality in Labor Market Outcomes: Contrasting the 1980s and Earlier Decades,” with Chinhui Juhn, 1 *Economic Policy Review* 26 (1995).

“Employment and the 1990-91 Minimum Wage Hike,” with Donald R. Deere and Finis Welch, 85 *American Economic Review* 232 (1995).

“Examining the Evidence on Minimum Wages and Employment,” with Donald R. Deere and Finis Welch, in The Effects of the Minimum Wage on Employment, pp. 26-54, ed. Marvin H. Koster. Washington, D.C.: The AEI Press (1996).

“Social Status, Education, and Growth,” with Chaim Fershtman and Yoram Weiss, 104 *Journal of Political Economy* 108 (1996).

“Wage Inequality and Family Labor Supply,” with Chinhui Juhn, 15 *Journal of Labor Economics* 72 (1997).

“Quality and Trade,” with Andrei Shleifer, 53 *Journal of Development Economics* 1 (1997).

“Vertical Integration as a Self-Enforcing Contractual Arrangement,” with Benjamin Klein, 87 *American Economic Review* 415 (1997).

“Unemployment and Nonemployment,” with Robert H. Topel, 87 *American Economic Review* 295 (1997).

“Wages, Skills, and Technology in the United States and Canada,” with W. Craig Riddell and Paul M. Romen, in General Purpose Technologies and Economic Growth, pp. 283-309, ed. Elhanan Helpman. Cambridge, MA: M.I.T. Press (1998).

“Perspectives on the Social Security Crisis and Proposed Solutions,” with Finis Welch, 88 *American Economic Review* 142 (1998).

“Population and Economic Growth,” with Gary S. Becker and Edward Glaeser, 89 *American Economic Review* 145 (1999).

“A Competitive Perspective on Internet Explorer,” with Steven J. Davis, 90 *American Economic Review* 184 (2000).

“Industrial Change and the Demand for Skill,” with Finis Welch, in The Causes and Consequences of Increasing Inequality, pp. 263-84, ed. Finis Welch. Volume II in the Bush School Series in the Economics of Public Policy. Chicago: The University of Chicago Press (2001).

“Wage Differentials in the 1990s: Is the Glass Half Full or Half Empty?” with Finis Welch, in The Causes and Consequences of Increasing Inequality, pp. 341-64, ed. Finis Welch. Volume II in the Bush School Series in the Economics of Public Policy. Chicago: The University of Chicago Press (2001).

“Economic Perspectives on Software Design: PC Operating Systems and Platforms,” with Steven J. Davis and Jack MacCracken, in Microsoft, Antitrust, and the New Economy: Selected Essays, pp. 361-420, ed. Davis S. Evans. Boston, MA: Kluwer (2001).

“Current Unemployment, Historically Contemplated,” with Robert H. Topel and Chinhui Juhn, 1 *Brookings Papers on Economic Activity* 79 (2002).

“The Economics of Copyright ‘Fair Use’ in A Networked World,” with Andres Lerner and Benjamin Klein, 92 *American Economic Review* 205 (2002).

“The Economic Value of Medical Research,” with Robert H. Topel, in Measuring the Gains from Medical Research: An Economic Approach, pp. 41-73, ed. Robert H. Topel and Kevin M. Murphy. Chicago: The University of Chicago Press (2003).

“School Performance and the Youth Labor Market,” with Sam Peltzman, 22 *Journal of Labor Economics* 299 (2003).

“Entrepreneurial ability and market selection in an infant industry: evidence from the Japanese cotton spinning industry,” with Atsushi Ohyama and Serguey Braguinsky, 7 *Review of Economic Dynamics* 354 (2004).

“Entry, Pricing, and Product Design in an Initially Monopolized Market,” with Steven J. Davis and Robert H. Topel, 112 *Journal of Political Economy* S188 (2004).

"Diminishing Returns: The Costs and Benefits of Increased Longevity," with Robert H. Topel, 46 *Perspectives in Biology and Medicine* S108 (2004).

"Persuasion in Politics," with Andrei Shleifer, 94 *American Economic Review* 435 (May 2004).

"Black-White Differences in the Economic Value of Improving Health," with Robert H. Topel, 48 *Perspectives in Biology and Medicine* S176 (2005).

"The Equilibrium Distribution of Income and the Market for Status," with Gary S. Becker and Iván Werning, 113 *Journal of Political Economy* 282 (2005).

"The Market for Illegal Goods: The Case of Drugs," with Gary S. Becker and Michael Grossman, 114 *Journal of Political Economy* 38 (2006).

"Competition in Two-Sided Markets: The Antitrust Economics of Payment Card Interchange Fees," with Benjamin Klein, Kevin Green, and Lacey Place, 73 *Antitrust Law Journal* 571 (2006).

"The Value of Health and Longevity," with Robert H. Topel, 114 *Journal of Political Economy* 871 (2006).

"Social Value and the Speed of Innovation," with Robert H. Topel, 97 *American Economic Review* 433 (2007).

"Education and Consumption: The Effects of Education in the Household Compared to the Marketplace," with Gary S. Becker, 1 *The Journal of Human Capital* 9 (Winter 2007).

"Why Does Human Capital Need a Journal?" with Isaac Ehrlich, 1 *The Journal of Human Capital* 1 (Winter 2007).

"Critical Loss Analysis in the *Whole Foods* Case," with Robert H. Topel, 3 (2) *GCP Magazine* (March 2008).

"Exclusive Dealing Intensifies Competition for Distribution," with Benjamin Klein, 75 *Antitrust Law Journal* (October 2008).

"Fertility Decline, the Baby Boom and Economic Growth," with Curtis Simon and Robert Tamura, 2 *The Journal of Human Capital* 3 (Fall 2008).

"The Market for College Graduates and the Worldwide Boom in Higher Education of Women," with Gary S. Becker and William H. J. Hubbard, 100 *American Economic Review: Papers & Proceedings* 229 (May 2010).

"Explaining the Worldwide Boom in Higher Education of Women," with Gary S. Becker and William H. J. Hubbard, 4 *Journal of Human Capital* No. 3 (2010).



“How Exclusivity is Used to Intensify Competition for Distribution-Reply to Zenger,” with Benjamin Klein, 77 *Antitrust Law Journal* No. 2 (2011).

“Achieving Maximum Long-Run Growth,” *Federal Reserve Bank of Kansas City Proceedings of the Annual Jackson Hole Conference 2011*.

“On the Economics of Climate Policy,” with Gary S. Becker and Robert H. Topel, 10 *B.E. Journal of Economic Analysis and Policy* No. 2 (2011).

“Measuring Crack Cocaine and its Impact,” with Roland G. Fryer, Jr., Paul S. Heaton, and Steven D. Levitt, 51 *Economic Inquiry* No. 3 (July 2013).

“Some Basic Economics of National Security,” with Robert H. Topel, 103 *American Economic Review* No. 3 (2013).

“Competitive Discounts and Antitrust Policy,” with Edward A. Snyder and Robert H. Topel, *Oxford Handbook of Antitrust Economics*, 2013 (forthcoming).

“Activating *Actavis*: A More Complete Story,” with Barry C. Harris, Robert D. Willig, and Matthew B. Wright, 28 *Antitrust* No. 2 (Spring 2014).

### **Selected Working Papers**

“Gauging the Economic Impact of September 11<sup>th</sup>,” with Gary S. Becker, Unpublished Working Paper (October 2001).

“War In Iraq Versus Containment: Weighing the Costs,” with Steven J. Davis and Robert H. Topel, NBER Working Paper No.12092 (March 2006).

“The Interaction of Growth in Population and Income,” with Gary S. Becker, Unpublished Working Paper (2006).

“Persuasion and Indoctrination,” with Gary Becker (2007).

“The Value of Life Near Its End and Terminal Care,” with Gary S. Becker and Tomas Philipson (2007).

“On the Economics of Climate Policy,” with Gary S. Becker and Robert H. Topel, Working Paper No. 234 (January 2010, Revised September 2010).

“Black and White Fertility, Differential Baby Booms: The Value of Civil Rights,” with Robert Tamura and Curtis Simon, Unpublished Working Paper (January 2011).

“The Manipulation of Children’s Preferences, Old Age Support, and Investment in Children’s Human Capital,” with Gary S. Becker and Jörg L. Spenkuch, Unpublished Working Paper (February 2012).

“The Collective Licensing of Music Performance Rights: Market Power, Competition and Direct Licensing” (March 2013).

“Activating *Actavis* with A More Complete Model,” with Michael G. Baumann, John P. Bigelow, Barry C. Harris, Janusz A. Ordover, Robert D. Willig, and Matthew B. Wright, (January 2014).

### **Selected Comments**

Comment on “Causes of Changing Earnings Equality” by Robert Z. Lawrence. Federal Reserve Bank of Kansas City (1998).

“Comment: Asking the Right Questions in the Medicare Reform Debate,” Medicare Reform: Issues and Answers, pp. 175-81, ed. Andrew J. Rettenmaier and Thomas R. Saving. Chicago: The University of Chicago Press (2000).

Comment on “Social Security and Demographic Uncertainty” by Henning Bohn, in Risk Aspects of Investment-Based Social Security Reform, ed. John Y. Campbell and Martin Feldstein. Chicago: The University of Chicago Press (2001).

Comment on “High Technology Industries and Market Structure” by Hal R. Varian. Federal Reserve Bank of Kansas City (2001).

### **Popular Press Articles**

“The Education Gap Rap,” *The American Enterprise* (March-April 1990), pp. 62.

“Rethinking Antitrust,” with Gary S. Becker, *Wall Street Journal* (February 26, 2001), A22.

“Prosperity Will Rise Out of the Ashes,” with Gary S. Becker, *Wall Street Journal* (October 29, 2001), A22.

“The Economics of NFL Team Ownership,” with Robert H. Topel, report prepared at the request of the National Football League Players’ Association (January 2009).

### **Articles About Murphy**

“Higher Learning Clearly Means Higher Earning,” by Carol Kleiman. *Chicago Tribune*, March 12, 1989, Jobs Section pp. 1. Long article about “The Structure of Wages” with picture of Murphy.

“Why the Middle Class Is Anxious,” by Louis S. Richman. *Fortune*, May 21, 1990, pp. 106. Extensive reference to Murphy's work on returns to education.

“Unequal Pay Widespread in U.S.,” by Louis Uchitelle, *New York Times*, August 14, 1990, Business Day section pp. 1. Long piece on income inequality.

“One Study’s Rags to Riches Is Another’s Rut of Poverty,” by Sylvia Nasar, *New York Times*, June 17, 1992, Business Section pp. 1. Long piece on the income inequality research.

“Nobels Pile Up for Chicago, but Is the Glory Gone?” by Sylvia Nasar, *New York Times* November 4, 1993, Business Section pp. 1. Long piece on Chicago School of economics. Featured a photo of five of the “brightest stars on the economics faculty” (including Murphy) and a paragraph about Murphy’s research.

“This Sin Tax is Win-Win,” by Christopher Farrell. *Business Week*, April 11, 1994, pp. 30. Commentary section refers to Murphy, Becker, and Grossman’s work on rational addiction.

“Growing inequality and the economics of fragmentation,” by David Warsh, *Boston Sunday Globe*, August 21, 1994, pp. A1. Two-page article with picture and biographical details about Murphy and his research; part of a series about “how the new generation replaced the old in economics.”

“A Pay Raise’s Impact,” by Louis Uchitelle. *New York Times*, January 12, 1995, Business Section pp. 1. Article about consequences of proposed increase in the minimum wage. Articles featuring Murphy’s comments on the minimum wage appeared in numerous other publications, including the *Chicago Tribune*; in addition, Murphy was interviewed on CNN (January 26, 1995).

“The Undereducated American,” *Wall Street Journal*, August 19, 1996, A12. Changes in the rate of returns to education.

“In Honor of Kevin M. Murphy: Winner of the John Bates Clark Medal,” by Finis Welch, 14 *Journal of Economic Perspectives* 193 (2000).

### **Testimony, Reports, and Depositions (Last 4 Years)**

Trial Testimony of Kevin M. Murphy, January 11, 2010, in the Matter of Go Computer, Inc., and S. Jerrold Kaplan v. Microsoft Corporation, The Superior Court for the State of California for the City and County of San Francisco.

Supplemental Rebuttal Expert Report of Kevin M. Murphy, January 14, 2010, in the Matter of Valassis Communications, Inc. v. News America Incorporated, a/k/a News America Marketing Group, News America FSI, Inc. a/k/a News America Marketing FSI, LLC and News America Marketing In-Store Services, Inc. a/a/a News American Marketing In-Store Services, LLC, The United States Third Circuit Court of Michigan Detroit Division Case No. 07-706645.

Deposition of Kevin M. Murphy, January 26, 2010, in the Matter of Valassis Communications, Inc. v. News America Incorporated, a/k/a News America Marketing Group, News America FSI, Inc. a/k/a News America Marketing FSI, LLC and News America Marketing In-Store Services, Inc. a/a/a News American Marketing In-Store

Services, LLC, The United States Third Circuit Court of Michigan Detroit Division Case No. 07-706645.

Declaration of Kevin M. Murphy, January 28, 2010, in the Matter of Automobile Antitrust Cases I and II, The United States Superior Court of the State of California for the County of San Francisco.

Declaration of Kevin M. Murphy, April 2, 2010, in the Matter of the Application for the Determination of Interim License Fees for The Cromwell Group, Inc. and Affiliates, et al., The United States District Court Southern District of New York.

Deposition of Kevin M. Murphy, April 13-14, 2010, in the Matter of Payment Card Interchange Fee and Merchant Discount Antitrust Litigation, The United States District Court for the Eastern District of New York.

Supplemental Expert Report of Kevin M. Murphy, June 1, 2010, in the Matter of Insignia Systems, Inc. v. News America Marketing In-Store, Inc. (corrected June 8, 2010), The United States District Court for the District of Minnesota.

Expert Report of Kevin M. Murphy, June 21, 2010, in the Matter of Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc., for Consent to Assign Licenses or Transfer Control of Licensees, Federal Communications Commission.

Supplement to Expert Report of Kevin M. Murphy, June 24, 2010, in the Matter of Payment Card Interchange Fee and Merchant Discount Antitrust Litigation, The United States District Court for the Eastern District of New York.

Second Supplemental Expert Report of Kevin M. Murphy, July 6, 2010, in the Matter of Insignia Systems, Inc. v. News America Marketing In-Store, Inc., The United States District Court for the District of Minnesota.

Deposition of Kevin M. Murphy, July 8, 2010, in the Matter of Insignia Systems, Inc. v. News America Marketing In-Store, Inc., The United States District Court for the District of Minnesota.

Expert Report of Kevin M. Murphy, July 28, 2010, in the Matter of Commonwealth of Pennsylvania by Thomas W. Corbett, Jr., in his capacity as Attorney General of the Commonwealth of Pennsylvania v. TAP Pharmaceutical Products, Inc., et al., in the Commonwealth Court of Pennsylvania, No. 212 MD 2004.

Response of Kevin M. Murphy to Reply Report of Mark Israel and Michael Katz, August 19, 2010, in the Matter of Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc., for Consent to Assign Licenses or Transfer Control of Licensees, Federal Communications Commission.

Expert Report of Kevin M. Murphy, September 14, 2010, in the Matter of City of St. Louis, et al. v. American Tobacco Co., et al., The Circuit Court of the City of St. Louis State of Missouri.

Deposition of Kevin M. Murphy, September 24, 2010, in the Matter of City of St. Louis, et al. v. American Tobacco Co., et al., The Circuit Court of the City of St. Louis State of Missouri.

Supplemental Expert Report of Kevin M. Murphy, September 30, 2010, in the Matter of Commonwealth of Pennsylvania by Thomas W. Corbett, Jr., in his capacity as Attorney General of the Commonwealth of Pennsylvania v. TAP Pharmaceutical Products, Inc., et al., in the Commonwealth Court of Pennsylvania, No. 212 MD 2004.

Expert Report of Kevin M. Murphy, October 1, 2010, in the Matter of State of New Hampshire v. Hess Corporation, et al., The State of New Hampshire Superior Court.

Expert Report of Kevin M. Murphy, October 4, 2010, in the Matter of the Arbitration between Cordis Corporation and Abbott Vascular, CPR International Institute for Conflict Prevention & Resolution.

Deposition of Kevin M. Murphy, October 7, 2010, in the Matter of the Arbitration between Cordis Corporation and Abbott Vascular, CPR International Institute for Conflict Prevention & Resolution.

Trial Testimony of Kevin M. Murphy, November 8, 2010, in the Matter of the Arbitration between Cordis Corporation and Abbott Vascular, CPR International Institute for Conflict Prevention & Resolution.

Declaration of Kevin M. Murphy, November 12, 2010, in the Matter of RWJ Management Company, Inc. v. BP Products North America, Inc., The United States District Court for the Northern District of Illinois Eastern Division.

Expert Report of Kevin M. Murphy, November 15, 2010, in the Matter of RWJ Management Company, Inc. v. BP Products North America, Inc., The United States District Court for the Northern District of Illinois Eastern Division.

Expert Report of Kevin M. Murphy, November 19, 2010, in the Matter of Craft, et al., v. Philip Morris Companies, Inc., a corporation, and Philip Morris Incorporated, a corporation, Missouri Circuit Court, Twenty-Second Judicial District (City of St. Louis), Case No. 002-00406-02.

Economic Analysis of Kevin M. Murphy to Guide Interpretation of Provisions of the Dodd-Frank Act Regarding Regulation of Debit Interchange Fees, November 23, 2010, submission on behalf of Bank of America Corporation.

Comments of Kevin M. Murphy on the November 10, 2010 Report of Drs. Mark Israel and Michael L. Katz, November 24, 2010, in the Matter of Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc., for Consent to Assign Licenses or Transfer Control of Licensees, Federal Communications Commission.

Expert Report of Kevin M. Murphy, November 29, 2010, in the Matter of Reggie White, et al., v. NFL: Lockout Insurance & Lockout Loans, The United States District Court District of Minnesota.

Deposition of Kevin M. Murphy, December 3, 2010, in the Matter of Reggie White, et al., v. NFL: Lockout Insurance & Lockout Loans, The United States District Court District of Minnesota.

Deposition of Kevin M. Murphy, December 13, 2010, in the Matter of RWJ Management Company, Inc. v. BP Products North America, Inc., The United States District Court for the Northern District of Illinois Eastern Division.

Deposition of Kevin M. Murphy, January 17-18, 2011, in the Matter of Craft, et al., v. Philip Morris Companies, Inc., a corporation, and Philip Morris Incorporated, a corporation, Missouri Circuit Court, Twenty-Second Judicial District (City of St. Louis), Case No. 002-00406-02.

Report of Kevin M. Murphy, February 15, 2011, submitted by TCF Financial Corporation on February 16, 2011 to the Subcommittee on Financial Institutions and Consumer Credit of the Committee on Financial Services of the U.S. House of Representatives.

Declaration of Kevin M. Murphy, March 2, 2011, in the Matter of TCF National Bank v. Ben S. Bernanke, Janet L. Yellen, Kevin M. Warsh, Elizabeth A. Duke, Daniel K. Tarullo and Sarah Bloom Raskin, the Board of Governors of the Federal Reserve System, in their official capacities; and John Walsh, Comptroller of the Currency, in his official capacity.

Expert Report of Kevin M. Murphy, April 11, 2011, in the Matter of Datel Holdings, LTD., and Datel Design & Development, Inc., v. Microsoft Corporation, The United States District Court Northern District of California.

Declaration of Kevin M. Murphy, May 26, 2011, filed with the National Labor Relations Board on behalf of the National Basketball Players Association.

Deposition of Kevin M. Murphy, June 14, 2011, in the Matter of Datel Holdings, LTD., and Datel Design & Development, Inc., v. Microsoft Corporation, The United States District Court Northern District of California.

Expert Report of Kevin M. Murphy, July 1, 2011, in the Matter of Certain Gaming and Entertainment Consoles, Related Software, and Components Thereof, The United States International Trade Commission.

Expert Report of Kevin M. Murphy, August 17, 2011, in the Matter of American Airlines, Inc. v. Sabre Inc., et al., The Judicial District of Tarrant County, Texas 67<sup>th</sup> Judicial District.

Expert Report of Kevin M. Murphy, August 19, 2011, in the Matter of Motor Fuel Temperature Sales Litigation, The United States District Court for the District of Kansas.

Deposition of Kevin M. Murphy, September 6, 2011, in the Matter of Certain Gaming and Entertainment Consoles, Related Software, and Components Thereof, The United States International Trade Commission.

Expert Report of Kevin M. Murphy, September 9, 2011, in the Matter of State of New York v. Intel Corporation, The United States District Court for the District of Delaware.

Deposition of Kevin M. Murphy, September 14, 2011, in the Matter of Motor Fuel Temperature Sales Litigation, The United States District Court for the District of Kansas.

Direct Testimony of Kevin M. Murphy, September 27, 2011, in the Matter of Certain Gaming and Entertainment Consoles, Related Software, and Components Thereof, The United States International Trade Commission.

Deposition of Kevin M. Murphy, October 8-10, 2011, in the Matter of State of New York v. Intel Corporation, The United States District Court for the District of Delaware.

Report of Kevin M. Murphy, October 10, 2011, in connection with dispute between NRLC and railroad employees, National Mediation Board Case Nos. A-13569; A-13570; A-13572; A-13573; A-13574; A-13575; A-13592, before Emergency Board No. 243.

Hearing Testimony of Kevin M. Murphy, October 13, 2011, in connection with dispute between NRLC and railroad employees, National Mediation Board Case Nos. A-13569; A-13570; A-13572; A-13573; A-13574; A-13575; A-13592, before Emergency Board No. 243.

Expert Report of Kevin M. Murphy, October 17, 2011, in the Matter of State of New Hampshire v. Hess Corporation, et al., The State of New Hampshire Superior Court.

Declaration of Kevin M. Murphy, December 1, 2011, in the Matter of Motor Fuel Temperature Sales Litigation, The United States District Court for the District of Kansas.

Expert Report of Kevin M. Murphy, December 5, 2011, in the Matter of Retractable Technologies, Inc. and Thomas Shaw v. Becton, Dickinson and Company, The United States District Court for the Eastern District of Texas Marshall Division.

Trial Testimony of Kevin M. Murphy, December 7-8, 2011, in the Matter of Novell, Incorporated v. Microsoft Corporation, The United States District Court Northern District of Maryland.

Trial Testimony of Kevin M. Murphy, December 29, 2011, in the Matter of RWJ Management Company, Inc. v. BP Products North America, Inc., The United States District Court for the Northern District of Illinois Eastern Division.

Supplemental Expert Report of Kevin M. Murphy, January 15, 2012, in the Matter of Retractable Technologies, Inc. and Thomas Shaw v. Becton, Dickinson and Company, The United States District Court for the Eastern District of Texas Marshall Division.

Trial Testimony of Kevin M. Murphy, January 18, 2012, in the Matter of Certain Gaming and Entertainment Consoles, Related Software, and Components Thereof, The United States International Trade Commission.

Supplemental Expert Report of Kevin M. Murphy, February 23, 2012, in the Matter of State of New Hampshire v. Hess Corporation, et al., The State of New Hampshire Superior Court.

Affidavit of Kevin M. Murphy, March 12, 2012, in the Matter of Sharon Price and Michael Fruth, Individually and on Behalf of Others Similarly Situated vs. Philip Morris Incorporated, The United States Circuit Court, Third Judicial Court, Madison County, Illinois.

Declaration of Kevin M. Murphy, May 3, 2012, in the Matter of Retractable Technologies, Inc. and Thomas Shaw v. Becton, Dickinson and Company, The United States District Court for the Eastern District of Texas Marshall Division.

Comments of Kevin M. Murphy of DirecTV, LLC, June 22, 2012, in the Matter of Revision of the Commission's Program Access Rules; News Corporation and the DIRECTV Group, Inc., Transferors, and Liberty Media Corporation, Transferee, for Authority to Transfer Control; Applications for Consent to the Assignment and/or Transfer of Control of Licenses, Adelphia Communications Corporation (and Subsidiaries, Debtors-in-Possession), Assignors, to Time Warner Cable, Inc. (Subsidiaries), Assignees, et al., Federal Communications Commission.

Expert Report of Kevin M. Murphy, July 20, 2012, in the Matter of American Airlines v. Sabre, Inc., Sabre Holdings Corp., and Sabre Travel International Ltd., The United States Judicial District Tarrant County, Texas 67<sup>th</sup> Judicial District.

Declaration of Kevin M. Murphy, July 21, 2012, in the Matter of Kirk Dahl v. Bain Capital Partners, LLC., The United States District Court District of Massachusetts.

Expert Report of Kevin M. Murphy, July 23, 2012, in the Matter of Kirk Dahl v. Bain Capital Partners, LLC., The United States District Court District of Massachusetts.

Expert Report of Kevin M. Murphy, July 24, 2012, in the Matter of Microsoft Corporation v. Motorola, Inc., The United States District Court Western District of Washington at Seattle.



Deposition of Kevin M. Murphy, August 22, 2012, in the Matter of Microsoft Corporation v. Motorola, Inc., The United States District Court Western District of Washington at Seattle.

“Economic Analysis of the Impact on DIRECTV’s Subscribership of Carrying an RSN: Evidence from San Diego,” August 31, 2012, submitted in the Matter of Revision of the Commission’s Program Access Rules; News Corporation and the DIRECTV Group, Inc., Transferors, and Liberty Media Corporation, Transferee, for Authority to Transfer Control; Applications for Consent to the Assignment and/or Transfer of Control of Licenses, Adelphia Communications Corporation (and Subsidiaries, Debtors-in-Possession), Assignors, to Time Warner Cable, Inc. (Subsidiaries), Assignees, et al., Federal Communications Commission.

Expert Report of Kevin M. Murphy, September 7, 2102, in the Matter of Willard R. Brown, et al. v. The American Tobacco Co., Inc., et al., Superior Court for the State of California for the County of San Diego.

Deposition of Kevin M. Murphy, September 14, 2012, in the Matter of Willard R. Brown, et al. v. The American Tobacco Co., Inc., et al., Superior Court for the State of California for the County of San Diego.

Deposition of Kevin M. Murphy, September 24, 2012, in the Matter of American Airlines Inc. v. Sabre, Inc., Sabre Holdings Corp., and Sabre Travel International Ltd., The United States Judicial District Tarrant County, Texas 67<sup>th</sup> Judicial District.

Expert Report of Kevin M. Murphy, October 10, 2012, in the Matter of Avery Dennison Corporation v. 3M Innovative Properties and 3M Company, The United States District Court for the District of Minnesota.

Expert Report of Kevin M. Murphy, November 12, 2012, in the Matter of Re High-Tech Employee Antitrust Litigation, The United States District Court Northern District of California San Jose Division.

Trial Testimony of Kevin M. Murphy, November 13, 2012, in the Matter of Microsoft Corporation v. Motorola Inc., The United States District Court Western District of Washington at Seattle.

Expert Report of Kevin M. Murphy, November 15, 2012, in the Matter of New Jersey Dep’t of Env’tl. Prot., et al. v. Atlantic Richfield Co., et al., The United States District Court Southern District of New York.

Deposition of Kevin M. Murphy, December 3, 2012, in the Matter of Re High-Tech Employee Antitrust Litigation, The United States District Court Northern District of California San Jose Division.

Expert Report of Kevin M. Murphy, December 21, 2012, in re: Titanium Dioxide Antitrust Litigation, The United States District Court for the District of Maryland.

Deposition of Kevin Murphy, January 16, 2013, in the Matter of Avery Dennison Corporation v. 3M Innovative Properties and 3M Company, The United States District Court for the District of Minnesota.

Amended Expert Report of Kevin M. Murphy, February 8, 2013, in the Matter of New Jersey Dep't of Env'tl. Prot., et al. v. Atlantic Richfield Co., et al., The United States District Court Southern District of New York.

Expert Report of Professor Kevin M. Murphy, February 8, 2013, in United States of America v. Apple Inc., et al., The United States District Court Southern District of New York.

Declaration of Kevin M. Murphy, February 22, 2013, in the Matter of Willard R. Brown, et al. v. The American Tobacco Co., Inc., et al., Superior Court for the State of California for the County of San Diego.

Rebuttal Expert Report of Kevin M. Murphy, March 1, 2013, in United States of America v. Apple Inc., et al., The United States District Court Southern District of New York.

Second Supplemental Expert Report of Kevin M. Murphy, March 8, 2013, in the Matter of Retractable Technologies, Inc. and Thomas Shaw v. Becton, Dickinson and Company, The United States District Court for the Eastern District of Texas Marshall Division.

Direct Testimony of Kevin M. Murphy, April 26, 2013, in United States of America v. Apple Inc., et al., The United States District Court Southern District of New York (revised and resubmitted on May 29, 2013).

Declaration of Kevin M. Murphy, May 13, 2013, in the Matter of Brenda Blakeman v. National Milk Producers Federation, et al., The United States District Court for the Southern District of Illinois.

Expert Report of Kevin M. Murphy, May 29, 2013, in the Matter of Microsoft Corporation v. Motorola, Inc., et al., The United States District Court Western District of Washington at Seattle.

Declaration of Kevin M. Murphy, June 6, 2013, in the Matter of WNET, Thirteen, Fox Television Stations, Inc., Twentieth Century Fox Film Corporation, WPIX, Inc., Univision Television Group, Inc., The Univision Network Limited Partnership, and Public Broadcasting Service v. Aereo, Inc. f/k/a Bamboom Labs, Inc., The United States District Court for the Southern District of New York.

Expert Report of Kevin M. Murphy, June 7, 2013, in the Matter of Patrick Brady, et al., v. Airline Pilots Association, International, The United States District Court District of New Jersey.

Rebuttal Expert Report of Kevin M. Murphy, June 10, 2013, in the Matter of Microsoft Corporation v. Motorola, Inc., et al., The United States District Court Western District of Washington at Seattle.

Trial Testimony of Kevin M. Murphy, June 19, 2013, in United States of America v. Apple Inc., et al., The United States District Court Southern District of New York.

Supplemental Expert Report of Kevin M. Murphy, June 21, 2013, in re: High-Tech Employee Antitrust Litigation, The United States District Court Northern District of California San Jose Division.

Trial Testimony of Kevin M. Murphy, July 1, 2013 and July 2, 2013, in re: Tobacco Cases II, Willard R. Brown, et al., v. The American Tobacco Company, et al., The Superior Court of the State of California in and for The County of San Diego Central Division.

Expert Report of Kevin M. Murphy, July 3, 2013, in re: Text Messaging Antitrust Litigation, The United States District Court For the Northern District of Illinois Eastern Division.

Video Deposition of Kevin M. Murphy, July 5, 2013, in re: High-Tech Employee Antitrust Litigation, The United States District Court Northern District of California San Jose Division.

Expert Report of Kevin M. Murphy, July 19, 2013, in The Apple iPod iTunes Antitrust Litigation, The United States District Court For the Northern District of California Oakland Division.

Trial Testimony of Kevin M. Murphy, August 29, 2013 and August 30, 2013, in the Matter of Microsoft Corporation v. Motorola, Inc., et al., The United States District Court Western District of Washington at Seattle.

Trial Testimony of Kevin M. Murphy, September 17, 2013, in the Matter of Retractable Technologies, Inc. and Thomas Shaw v. Becton, Dickinson and Company, The United States District Court for the Eastern District of Texas Marshall Division.

Deposition of Kevin M. Murphy, September 26, 2013, in re: Text Messaging Antitrust Litigation, The United States District Court For the Northern District of Illinois Eastern Division

Expert Report of Kevin M. Murphy, September 27, 2013, in re: Petition of Pandora Media, Inc., related to United States of America v. American Society of Composers Authors and Publishers, The United States District Court for the Southern District of New York.

Rebuttal Expert Report of Kevin M. Murphy, October 21, 2013, in re: Petition of Pandora Media, Inc., related to United States of America v. American Society of Composers Authors and Publishers, The United States District Court for the Southern District of New York.

Expert Report of Kevin M. Murphy, October 21, 2013, in the Matter of Mary A. Carroll and Betty C. Lynn, et al., v. Philip Morris USA, Inc., et al., Superior Court for the State of Delaware in and for New Castle County.

Deposition of Kevin M. Murphy, November 2, 2013, in re: Petition of Pandora Media, Inc., related to United States of America v. American Society of Composers Authors and Publishers, The United States District Court for the Southern District of New York.

Rebuttal Expert Report of Kevin M. Murphy, November 8, 2013, in the Matter of US Airways, Inc. v. Sabre Holdings Corp., Sabre, Inc., and Sabre Travel International Ltd., The United States District Court for the Southern District of New York.

Deposition of Kevin M. Murphy, November 12, 2013, in The Apple iPod iTunes Antitrust Litigation, The United States District Court for the Northern District of California Oakland Division.

Expert Report of Kevin M. Murphy, November 18, 2013, in the Matter of WNET, Thirteen, Fox Television Stations, Inc., Twentieth Century Fox Film Corporation, WPIX, Inc., Univision Television Group, Inc., The Univision Network Limited Partnership, and Public Broadcasting Service v. Aereo, Inc. f/k/a Bamboom Labs, Inc., The United States District Court for the Southern District of New York.

Direct Testimony of Kevin M. Murphy, November 18, 2013, in re: Petition of Pandora Media, Inc., related to United States of America v. American Society of Composers Authors and Publishers, The United States District Court for the Southern District of New York.

Expert Report of Kevin M. Murphy, November 25, 2013, in the Matter of Re High-Tech Employee Antitrust Litigation, The United States District Court for the Northern District of California San Jose Division.

Deposition of Kevin M. Murphy, December 7, 2013, in the Matter of Re High-Tech Employee Antitrust Litigation, The United States District Court for the Northern District of California San Jose Division.

Supplemental Expert Report of Kevin M. Murphy and Robert H. Topel, December 20, 2013, in The Apple iPod iTunes Antitrust Litigation, The United States District Court for the Northern District of California Oakland Division.

Deposition of Kevin M. Murphy, January 8, 2014, in The Apple iPod iTunes Antitrust Litigation, The United States District Court for the Northern District of California Oakland Division.

Expert Report of Kevin M. Murphy, January 22, 2014, in the Matter of Janet Skold and David Dos Santos, et al. v. Intel Corporation, et al., Superior Court of the State of California for the County of Santa Clara.

Trial Testimony of Kevin M. Murphy, January 27, 2014 and January 28, 2014, in re: Petition of Pandora Media, Inc., related to United States of America v. American Society of Composers Authors and Publishers, in The United States District Court for the Southern District of New York.

Deposition of Kevin M. Murphy, March 19, 2014, in the Matter of Janet Skold and David Dos Santos, et al. v. Intel Corporation, et al., Superior Court of the State of California for the County of Santa Clara.

Expert Report of Kevin M. Murphy, May 12, 2014, in the Matter of Sharon Cobb, et al. v. BSH Home Appliances Corporation, The United States District Court for the Central District of California Southern Division.

## **Appendix D**

## Materials Considered

<b>Court Documents</b>
Consolidated Reply to Certain Objections to Confirmation of Fourth Amended Plan for the Adjustment of Debts of the City of Detroit, 5/26/2014
Corrected Motion of the City of Detroit for Entry of an Order Establishing Supplemental Procedures for Solicitation and Tabulation of Votes to Accept or Reject Plan of Adjustment with Respect to Pension and OPEB Claims, 4/10/2014
Declaration of Kevyn D. Orr in Support of City of Detroit, Michigan's Statement of Qualifications Pursuant to Section 109(c) of the Bankruptcy Code, 7/18/2013
Deposition of Michael Hall, 7/2/2014
Disclosure Statement with Respect to Plan for the Adjustment of Debts of the City of Detroit, 2/21/2014
Fourth Amended Disclosure Statement with Respect to Fourth Amended Plan for the Adjustment of Debts in the City of Detroit, 5/5/2014
Fourth Amended Plan for the Adjustment of Debt of the City of Detroit ("Plan"), 5/5/2014
Syncora Capital Assurance Inc. and Syncora Guarantee Inc.'s Objection to the Debtor's Plan of Adjustment, 5/12/2014
Deposition of Kevyn Orr as a 30(b)(6) Witness, 7/22/2014
<b>Expert Reports</b>
Expert Report of Beth Niblock, Chief Information Officer for the City of Detroit
Expert Report of Charles M. Moore, CPA, CTP, CFF
Expert Report of Gaurav Malhotra
Expert Report of John C. Satter
Expert Report of John Hill
Expert Report of Kenneth Buckfire in Support of City of Detroit's Plan of Adjustment
Expert Report of Vanessa Fusco
Expert Witness Report of Michael Plummer
Report of Alan Perry
Report of Caroline Sallee
Report of Robert Cline
Report of Suzanne Taranto
<b>Bates Numbered Documents</b>
POA00066383
POA00081466
POA00144909
POA00223811
POA00275794
POA00276200
POA00548401
POA00548637
POA00684247

POA00684303

**Academic Resources**

Anderson, Kathryn H., Richard V. Burkauer, and Joseph F. Quinn, "Do Retirement Dreams Come True? The Effect of Unanticipated Events on Retirement Plans," 39(4) Industrial and Labor Relations Review 518 (July 1986).

Becker, Gary S., "A Theory of the Allocation of Time" 75 Economic Journal (September 1965).

Borjas, George J., Labor Economics (6th Edition), New York: McGraw-Hill (2013).

Brown, Jeffrey R., Courtney C. Coile, and Scott J. Weisbenner, "The Effect of Inheritance Receipt on Retirement," 92(2) The Review of Economics and Statistics (May 2010), 425.

Cesarini, David, Erik Lindqvist, Matthew J. Notowidigdo, and Robert Ostling, "The Effect of Wealth on Household Labor Supply: Evidence from Swedish Lotteries," Working Paper (July 2013).

Ehrenberg, Ronald G., and Robert S. Smith, Modern Labor Economics: Theory and Public Policy (12th Edition) (2015).

Ellman, Jeffrey B., and Daniel J. Merrett, "Pensions and Chapter 9: Can municipalities use bankruptcy to solve their pension woes?" 27 Emory Bankruptcy Developments Journal (2010), 365-413.

Gregg, Lewis H., "Hours of Work and Hours of Leisure," Papers and Proceedings, Ninth Annual Meeting, IR Research Association (1956).

Lazear, Edward P., "Agency, earnings profiles, productivity, and hours restrictions," 71(4) The American Economic Review (September 1981), 606-620.

Munnell, Alicia H. and Laura Quinby, "Legal Constraints on Changes in State and Local Pensions," Center for Retirement Research (August 2012).

Pindyck, Robert S. and Daniel L. Rubinfeld, Microeconomics (Sixth Edition), Upper Saddle River, New Jersey: Pearson Prentice Hall (2005).

Varian, Hal R., Intermediate Microeconomics: A Modern Approach (Fifth Edition), New York: W. W. Norton and Company (1999).

**Public Documents**

"4-Year Deals for Unions at Verizon," New York Times, 9/19/2012.  
(<http://www.nytimes.com/2012/09/20/business/verizon-workers-reach-4-year-tentative-pacts.html>)

"Boeing Machinists' Plight Marks Changing Times for Labor," NPR, 1/15/2014  
(<http://www.npr.org/2014/01/15/262165973/boeing-machinists-plight-marks-changing-times-for-labor>)

"Boeing Workers Approve 8-Year Contract Extension," New York Times, 1/4/2014  
(<http://www.nytimes.com/2014/01/05/business/boeing-workers-approve-contract-tied-to-777x.html>)

"Case study: The Vallejo, California Bankruptcy," Standard and Poor's Ratings Direct, October 4, 2012

"Caterpillar Union Bows to Demands," Wall Street Journal, 8/17/2012  
(<http://online.wsj.com/news/articles/SB10000872396390444375104577595342394784960>)

"City of Detroit – Restructuring Plan (Executive Summary): Mayor's Implementation Progress Report", March 2013,  
(<http://www.detroitmi.gov/Portals/0/docs/mayor/Financial%20Update/Executive%20Summary%20of%20Mayor%20Bing%20Progress%20Report.pdf> (last visited 7/22/14)).



<p>“Detroit Fire Dept. hiring 90 fire fighters,” Fox Detroit, October 18, 2013 (<a href="http://www.myfoxdetroit.com/story/23732349/detroit-fire-dept-hiring-90-fire-fighters">http://www.myfoxdetroit.com/story/23732349/detroit-fire-dept-hiring-90-fire-fighters</a>)</p>
<p>“Detroit Institute of Arts applauds the inclusion of the Grand Bargain in the Emergency Manager's Plan of Adjustment,” Detroit Institute of Arts, Press Release, February 21, 2014 (<a href="http://www.dia.org/news/1568/Detroit-Institute-of-Arts-applauds-the-inclusion-of-the-Grand-Bargain-in-the-Emergency-Manager%E2%80%99s-Plan-of-Adjustment.aspx">http://www.dia.org/news/1568/Detroit-Institute-of-Arts-applauds-the-inclusion-of-the-Grand-Bargain-in-the-Emergency-Manager%E2%80%99s-Plan-of-Adjustment.aspx</a>)</p>
<p>“Detroit Manager Proposes Moving Retirees Off City's Health Care,” MintPress News, 7/3/2013 (<a href="http://www.mintpressnews.com/detroit-manager-proposes-moving-retirees-off-citys-health-care/164743/">http://www.mintpressnews.com/detroit-manager-proposes-moving-retirees-off-citys-health-care/164743/</a>)</p>
<p>“Final Day to Apply for a Job as Detroit Firefighter,” CBS Detroit, October 25, 2013 (<a href="http://detroit.cbslocal.com/2013/10/25/last-day-to-apply-for-job-as-detroit-firefighter/">http://detroit.cbslocal.com/2013/10/25/last-day-to-apply-for-job-as-detroit-firefighter/</a>)</p>
<p>"Foundations add \$13 million to grand bargain pot for DIA, pensions," Detroit Free Press, June 11, 2014 (<a href="http://www.freep.com/article/20140522/NEWS06/305220234/DIA-Michigan-House-Detroit-bankruptcy">http://www.freep.com/article/20140522/NEWS06/305220234/DIA-Michigan-House-Detroit-bankruptcy</a>)</p>
<p>“In Rhode Island Bankruptcy, Bondholders Came First,” Fox Business, 7/24/2013 (<a href="http://www.foxbusiness.com/government/2013/07/24/in-rhode-island-bankruptcy-bondholders-came-first/">http://www.foxbusiness.com/government/2013/07/24/in-rhode-island-bankruptcy-bondholders-came-first/</a>, last visited 5/27/2014)</p>
<p>“Lockheed contract Wins Approval of Union Bargainers,” New York Times, 6/25/2012. (<a href="http://www.nytimes.com/2012/06/25/business/lockheed-martin-and-machinists-reach-agreement.html">http://www.nytimes.com/2012/06/25/business/lockheed-martin-and-machinists-reach-agreement.html</a>)</p>
<p>“Lockheed Martin and Machinists Reach Agreement,” New York Times, 6/24/2012 (<a href="http://www.nytimes.com/2012/06/25/business/lockheed-martin-and-machinists-reach-agreement.html">http://www.nytimes.com/2012/06/25/business/lockheed-martin-and-machinists-reach-agreement.html</a>)</p>
<p>“Michigan House overwhelmingly approves \$195 million in state aid for Detroit”, Gary Detroit Free Press, July 15, 2014 (<a href="http://www.freep.com/article/20140522/NEWS06/305220234/DIA-Michigan-House-Detroit-bankruptcy">http://www.freep.com/article/20140522/NEWS06/305220234/DIA-Michigan-House-Detroit-bankruptcy</a>)</p>
<p>“More than 650 apply for 40 open Detroit police officer positions,” MLive, August 19, 2013 (<a href="http://blog.mlive.com/news/detroit_impact/print.html?entry=/2013/08/more_than_650_apply_for_40_o">http://blog.mlive.com/news/detroit_impact/print.html?entry=/2013/08/more_than_650_apply_for_40_o</a> <a href="http://blog.mlive.com/news/detroit_impact/print.html?entry=/2013/08/more_than_650_apply_for_40_o">pe.html</a>)</p>
<p>“Striking Caterpillar Workers Ratify Contract Offer,” New York Times, 8/17/2012 (<a href="http://www.nytimes.com/2012/08/18/business/striking-caterpillar-workers-ratify-contract-offer.html?_r=0">http://www.nytimes.com/2012/08/18/business/striking-caterpillar-workers-ratify-contract-offer.html?_r=0</a>)</p>
<p>“Survey Research Yields Data on Employee Turnover,” National Business Research Institute (<a href="http://www.nbrii.com/employee-survey-white-papers/survey-research-yields-data-on-employee-turnover/">http://www.nbrii.com/employee-survey-white-papers/survey-research-yields-data-on-employee-turnover/</a>)</p>
<p>“The State Role in Local Government Financial Distress,” The Pew Charitable Trusts, July 2013</p>
<p>“Turning Around an American Icon, How Ford went from Losing more than \$30 billion to Posting Big Profits,” Cleveland.com, 1/29/2011. (<a href="http://blog.cleveland.com/business_impact/print.html?entry=/2011/01/turning_around_an_american_ico">http://blog.cleveland.com/business_impact/print.html?entry=/2011/01/turning_around_an_american_ico</a> <a href="http://blog.cleveland.com/business_impact/print.html?entry=/2011/01/turning_around_an_american_ico">.html</a>)</p>
<p>“UAW Agrees to Health Care Concession at Ford,” New York Times, 2/24/2009 (<a href="http://www.nytimes.com/2009/02/24/business/24auto.html">http://www.nytimes.com/2009/02/24/business/24auto.html</a>)</p>

<p>“UAW Says Ford Workers Ratified Concessions,” Wall Street Journal, 3/10/2009  (<a href="http://online.wsj.com/news/articles/SB123662654608974841#printMode">http://online.wsj.com/news/articles/SB123662654608974841#printMode</a>)</p>
<p>“United Machinists’ Union Approves Pay Concessions,” New York Times, 5/1/2003  (<a href="http://www.nytimes.com/2003/05/01/business/united-machinists-union-approves-pay-concessions.html?pagewanted=print">http://www.nytimes.com/2003/05/01/business/united-machinists-union-approves-pay-concessions.html?pagewanted=print</a>)</p>
<p>“When Is a ‘General’ Obligation Not a ‘General Obligation Bond’?” Chapman Strategic Advisors,  Municipal Bond Buyers Conference, February 2014</p>
<p>Bureau of Labor Statistics datasets (<a href="http://www.bls.gov/">http://www.bls.gov/</a>)</p>
<p>City of Detroit, Michigan, “Comprehensive Annual Financial Reports”  (<a href="https://www.detroitmi.gov/DepartmentsandAgencies/Finance.aspx">https://www.detroitmi.gov/DepartmentsandAgencies/Finance.aspx</a>)</p>
<p>Cory Eucalitto et al., "Municipal Bankruptcy: An Overview for Local Officials," State Budget Solutions  (2/26/2013)</p>
<p>Highlights of U.S. General Accounting Office, “Employer-Sponsored Benefits: Many Factors Affect the  Treatment of Pension and Health Benefits in Chapter 11 Bankruptcy,” GAO-07-1101 (September 2007)</p>
<p>John Bates Clark Medal (<a href="http://www.aeaweb.org/honors_awards/clark_medal.php">http://www.aeaweb.org/honors_awards/clark_medal.php</a>)</p>